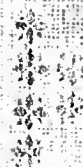


FOURTH
Annual Report

Illinois State
Bee Keepers
Association



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FOURTH ANNUAL REPORT

—OF THE—

Illinois State Bee-Keepers' Association

Organized February 26, 1891,

—AT—

SPRINGFIELD, ILL.

COMPILED BY
JAMES A. STONE, SECRETARY,
R. R. 4, Springfield, Ill.

CHICAGO, ILL.:
AMERICAN BEE JOURNAL PRINT,
1905.

OFFICERS AND MEMBERS

—OF THE—

Illinois State Bee-Keepers' Association

FOR 1905.



OFFICERS.

President— J. Q. SMITH, Lincoln

Vice-Presidents—

1st— AARON COPPIN, Wenona

2d— S. N. BLACK, Clayton

3d— J. W. PRIMM, Springfield

4th— J. W. BOWEN, Jacksonville

5th— JAS. POINDEXTER, Bloomington

Secretary— JAS. A. STONE, Rt. 4, Springfield

Treasurer— CHAS. BECKER, Pleasant Plains

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LETTER OF TRANSMITTAL

OFFICE OF THE SECRETARY,
R.R. 4, SPRINGFIELD, ILL., Jan. 25, 1905 }

*To his Excellency, Charles S. Deneen, Governor of the State
of Illinois:*

SIR: I have the honor to transmit herewith the Fourth
Annual Report of the Illinois State Bee-Keepers' Associa-
tion.

Respectfully submitted,

JAMES A. STONE, *Secretary.*

414434

LIST OF MEMBERS
—OF THE—
Illinois State Bee-Keepers' Association
FOR 1905,

Achard, Chas. B., Roselle, Ill.
Adler, L. A. Jr., St. Jacob, Ill.
Almond Bros., Libertyville, Ill.
Anderson, J. L., Harvard, Ill.
Austin, C. E., 369 63d St., Chicago, Ill.
Abbott, Rev. E. T., St. Joseph; Mo.
Allison, A. P., Maquoketa, Iowa.
Arnd, H. M., 141 Ontario St., Chicago, Ill.
Baldwin, A. Y., DeKalb, Ill.
Becker, Chas., Pleasant Plains, Ill.
Bevier, M., Bradford, Ill.
Black, S. N., Clayton, Ill.
Blunier, Peter, Roanoke, Ill.
Bolt, R., R. R. 3, Fulton, Ill.
Bowen, J. W., Jacksonville, Ill.
Boyden, L. W., 144 Erie St., Chicago, Ill.
Bronell, Mrs. Dora, Plano, Ill.
Brunner, Fred, Coal City, Ill.
Burcham, Chas., Mechanicsburg, Ill.
Baldwin, A. G., DeKalb, Ill.
Ball, W. D., South Bend, Ind.
Barkemeyer, B. D., Oak Park, Ill.
Bartz, A. C. F., Keystone, Wis.
Beardsley, E. H., Chicago Lawn, Chicago, Ill.
Beck, Baptist, Guttenberg, Iowa.
Black, S. H., Goodhope, Ill.
Blume, W. B., Norwood, Ill.
Bodenschatz, Adam, Lemont, Ill.
Brouillette, J. B., St. Anne, Ill.
Bell, John C., Valparaiso, Ind.
Bumgardner, J. M., Clinton, Ind.
Burnett, R. A., 199 S. Water St., Chicago, Ill.
Campbell, John F., 53 River St., Chicago, Ill.
Coppin, Aaron, Wenona, Ill.
Cremers, L. H., E. Dubuque, Ill.
Crim, S. T., Dawson, Ill.
Crum, Isaac D., Palmyra, Ill.
Candler, Miss M., Cassville, Wis.
Chapman, W. B., 7540 Union Ave., Chicago, Ill.
Colburn, R. J., 6827 Union Ave., Chicago, Ill.

Conrad, J. D., Flanagan, Ill.
Dowdy, John S., Atlanta, Ill.
Duff, H. J., Sheridan, Ill.
Dittmer, Gus., Augusta, Wis.
Duby, H. S., St. Anne, Ill.
Duncan, Wm., Hinsdale, Ill.
Dunlop, Dave S., Greencastle, Ind.
Earnest, D. P., Comstock, Ill.
Emigh, Dr. B. T., Aurora, Ill.
Eaton, Dr. E. N., 315 Dearborn St., Chicago, Ill.
Elliott, Mrs. R. P., Wilmington, Ill.
Exo, George, Muscatine, Iowa.
Fleisher, H. A., Kasbeer, Ill.
France, N. E., Platteville, Wis.
Frank, J. C., Davis, Ill.
Frike, Fred J., Elgin, Ill.
Ferguson, L. R., Harvey, Ill.
Fluegge, Theodore, Bensenville, Ill.
Frank, John C., Earlville, Ill.
Gamash, Jas., Waukegan, Ill.
Gehrke, H. R., Arlington Heights, Ill.
Glasser, Wm., Dakota, Ill.
Gray, W. H., Wyoming, Ill.
Gilbert, L. M., Naperville, Ill.
Glessner, Mrs. J. J., 1800 Prairie Ave., Chicago, Ill.
Hagler, H. T., Virden, Ill.
Haise, Chas., Atlanta, Ill.
Heinold, Fred, Cissna Park, Ill.
Hinderer, Frank, Frederick, Ill.
Hoke, J. H., Decatur, Ill.
Holdener, J. D., Carlyle, Ill.
Hall, B. C., Elmwood, Ill.
Heintz, Simon, Palmyra, Wis.
Hiestand, N. A., Pullman, Chicago, Ill.
Hogge, T. E., 129 N. Trumbull Ave., Chicago, Ill.
Horstmann, Wm. H., 6759 Morgan St., Chicago, Ill.
Hubbard, Jno. B., Shipshervana, Ind.
Hyde, W. H., New Canton, Ill.
Jones, Geo. W., West Bend, Wis.
Karns, Allan A., Dawson, Ill.
Kennedy, Miss L. C., Curran, Ill.
Kannenberg, C. F., Oak Park, Ill.
Kimmey, Fred L., Morgan Park, Ill.
Lawrence, W. G., Chadwick, Ill.
Leiker, Andrew, Joliet, Ill.
Lind, M. H., Baders, Ill.
Lyman, W. C., Downer's Grove, Ill.
Miller, Dr. C. C., Marengo, Ill.
Miller, A. J., Decatur, Ill.
Miller, W. C., Box R., Ottawa, Ill.
Mohr, Mike D., Hampton, Ill.
Moore, W. B., Altona, Ill.
Macklin, Chas. G., Morrison, Ill.
Marshall, Wm., DeKalb, Ill.

Martin, Jos. M., New Carlisle, Ind.
McAllister, G. H., 2872 N. 46th Court, Chicago, Ill.
McCain, Rev. Robt. B., Coal City, Ill.
Mottaz, A., Utica, Ill.
Muehleip, H., Apple River, Ill.
Mussing, Martin, Oak Park, Ill.
Nicholson, A. B., Lincoln, Ill.
Null, W. D., LaHarpe, Ill.
Nydegger, John, Danville, Ill.
Oakes, Lannes P., Metropolis, Ill.
Ostermeier, John, Cornland, Ill.
Ohmert, Geo. A., Rockdale, Iowa.
Owen, Chas., 536 Alma St., Austin, Ill.
Payne, John W., Georgetown, Ill.
Poindexter, James, Bloomington, Ill.
Primm, J. W., Springfield, Ill.
Procise, H. P., Chrisman, Ill.
Parker, A. R., Morrison, Ill.
Pease, E. W., 2872 N. 45th Ave., Chicago, Ill.
Peffn, Chas. M., Colfax, Iowa.
Picaman, Gus., Litchfield, Ill.
Rafferty, J. T., ElDara, Ill.
Rasenberg, Paul, Cable, Ill.
Riley, W., Breeds, Ill.
Runlund, Peter, Spring Valley, Ill.
Ruse, F. M., Pittsfield, Ill.
Russler, Jacob, Morgan Park, Ill.
Reynolds, Alvah, Altona, Ill.
Reynolds, W. G., 1956 Ogden Ave., Chicago, Ill.
Ritscher, A. E., Meredosia, Ill.
Root, E. R., Medina, Ohio.
Scott, W. C., Athens, Ill.
Scroggins, A. C., Mt. Pulaski, Ill.
Searl, J. E., Vermont, Ill.
Secor, W. G., Greenfield, Ill.
Seibold, Jacob, Homer, Ill.
Settle, W. H., Gridley, Ill.
Slack, Geo. B., Mapleton, Ill.
Smith, J. Q., Lincoln, Ill.
Smith, Louis, R. R. 2, Springfield, Ill.
Stone, Jas. A., R. R. 4, Springfield, Ill.
Switzer, Samuel, St. Charles, Ill.
Salzmann, Wm., Gushman, Wis.
Schafer, E. F., Chesterton, Ind.
Scheid, Byron, Bay City, Wis.
Secor, Eugene, Forest City, Iowa.
Shroutz, Mack, Momence, Ill.
Shupe, Frank, Mazon, Ill.
Snell, F. A., Milledgeville, Ill.
Stanley, Arthur, Dixon, Ill.
Stewart, W. H. H., Emerson, Ill.
Stow, Mrs. N. L., Evanston, Ill.
Sweet, Ernest, Garden Plain, Ill.
Swift, E. C., Ottawa, Ill.

STATE BEE-KEEPERS' ASSOCIATION.

Switzer, Samuel, St. Charles, Ill.
Trego, S. F., Swedona, Ill.
Turner, Anderson, Pleasant Plains, Ill.
Tyler, Fred, San Jose, Ill.
Tough, James, Oak Park, Ill.
Ulrich, G. E., Campus, Ill.
Vogel, Henry, Galena, Ill.
Wagner, F. M., Quincy, Ill.
Weller, Miss Emma, Jacksonville, Ill.
Werner, Louis, Edwardsville, Ill.
Williams, Edward P., Urbana, Ill.
Wagner, L. E., Readstown, Wis.
Weckerle, Mrs. Anna, West Pullman, Ill.
Weems, H. L., P. O. Box 267, Chicago, Ill.
West, Ephraim, Minooka, Ill.
Wheeler, J. C., Oak Park, Ill.
Whitney, Wm. M., Lake Geneva, Wis.
Wilcox, F., Mauston, Wis.
Wilson, Miss Emma, Marengo, Ill.
York, George W., 334 Dearborn St., Chicago, Ill.
Zachgo, Hugo, Danforth, Ill.
Zoll, C., Vermont, Ill.
Zeller, Caroline, Spring Bay, Ill.
Zeiman, Henry, Horicon, Wis.



State of Illinois—Department of State.

ISAAC N. PEARSON, Secretary of State.

To all to whom these Presents shall come, Greeting:

WHEREAS, A certificate duly signed and acknowledged having been filed in the office of the Secretary of State on the 27th day of February, A. D. 1891, for the organization of the Illinois State Bee-Keepers' Association, under and in accordance with the provisions of "An Act Concerning Corporations," approved April 18, 1872, and in force July 1, 1872, and all acts amendatory thereof, a copy of which certificate is hereunto attached.

NOW, THEREFORE, I, Isaac N. Pearson, Secretary of State, of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said, The Illinois State Bee-Keepers' Association is a legally organized corporation under the laws of this State.

In Testimony Whereof, I hereunto set my hand, and cause to be affixed the great seal of State.

Done at the City of Springfield this 27th day of February, in the year of our Lord, one thousand [SEAL] eight hundred and ninety-one, and the Independence of the United States the one hundred and fifteenth.

I. N. PEARSON,
Secretary of State.

STATE OF ILLINOIS,
SANGAMON COUNTY.

ss.

To Isaac N. Pearson, Secretary of State:

We, the undersigned, Perry J. England, Jas. A. Stone and Albert N. Draper, citizens of the United States, propose to form a corporation under an act of the General Assembly of the State of Illinois, entitled, "An Act Concerning Corporations," approved April 18, 1872, and all acts amendatory thereof; and for the purposes of such organizations, we hereby state as follows, to-wit:

1. The name of such corporation is, The Illinois State Bee-Keepers' Association.

2. The object for which it is formed is, to promote the general interests of the pursuit of bee-culture.

3. The management of the aforesaid Association shall be vested in a board of three Directors who are to be elected annually.

4. The following persons are hereby selected as the Directors, to control and manage said corporation for the first year of its corporate existence, viz: Perry J. England, Jas. A. Stone and Albert N. Draper.

5. The location is in Springfield, in the County of Sangamon, State of Illinois. [Signed,]

PERRY J. ENGLAND,
JAS. A. STONE,
ALBERT N. DRAPER.

STATE OF ILLINOIS,
COUNTY OF SANGAMON.

ss.

I, S. Mendenhall, a notary public in and for the county and State aforesaid, do hereby certify that on this 26th day of February, A. D. 1891, personally appeared before me, Perry J. England, James A. Stone and Albert N. Draper, to me personally known to be the same persons who executed the foregoing certificate, and severally acknowledged that they had executed the same for the purposes therein set forth.

In Witness Whereof, I have hereunto set my hand and seal the day and year above written.

[SEAL]

S. MENDENHALL,
Notary Public.

CONSTITUTION AND BY-LAWS
—OF THE—
Illinois State Bee-Keepers' Association.

✧ CONSTITUTION ✧

Adopted Feb: 26, 1891.

ARTICLE I—*Name.*

This organization shall be known as the Illinois State Bee-Keepers' Association, and its principal place of business shall be at Springfield, Ill.

ARTICLE II—*Object.*

Its object shall be to promote the general interests of the pursuit of Bee Culture.

ARTICLE III—*Membership.*

SECTION 1. Any person interested in Apiculture may become a member upon the payment to the Secretary of an annual fee of one dollar (\$1.00). And any affiliating Association, as a body, may become members on the payment of an aggregate fee of twenty-five cents (25c) per member.

SEC. 2. Any persons may become honorary members by receiving a majority vote at any regular meeting.

ARTICLE IV—*Officers.*

SECTION 1. The officers of this Association shall be President, five Vice-Presidents, Secretary and Treasurer. Their terms of office shall be for one year, or until their successors are elected and qualified.

SEC. 2. The President, Secretary and Treasurer shall constitute the Executive Committee.

SEC. 3. Vacancies in office—by death, resignation or otherwise—shall be filled by the Executive Committee until the next annual meeting.

ARTICLE V—*Amendments.*

This Constitution may be amended at any annual meeting by a two-thirds vote of all the members present—thirty days' notice having been given to each member of the Association.

✧ BY-LAWS ✧

ARTICLE I.

The officers of this Association shall be elected by ballot and by a majority vote.

ARTICLE II.

It shall be the duty of the President to call and preserve order at all meetings of this Association; to call for all reports of officers and committees; to put to vote all motions regularly seconded, to count the votes at all elections and declare the results; to decide upon all questions of order; and to deliver an address at each annual meeting.

ARTICLE III.

The Vice-Presidents shall be numbered respectively, First, Second, Third, Fourth and Fifth, and it shall be the duty of one of them in his respective order to preside in the absence of the President.

ARTICLE IV.

SECTION 1. It shall be the duty of the Secretary to report all proceedings of the Association, and to record the same, when approved, in the Secretary's book; to conduct all correspondence of the Association, and to file and preserve all papers belonging to the same; to receive the annual dues and pay them over to the Treasurer, taking his receipt for the same; to take and record the name and address of every member of the Association; to cause the Constitution and By-Laws to be printed in appropriate form, and in such quantities as may be directed by the Executive Committee from time to time, and see that each member is provided with a copy thereof; to make out and publish annually, as far as practicable, statistical table showing the number of colonies owned in the spring and fall, and the amount of honey and wax produced by each member, together with such other information as may be deemed important, or be directed by the Executive Committee; and to give notice of all meetings of the Association in the leading papers of the State and in the bee journals at least four weeks prior to the time of such meeting.

SEC. 2. The Secretary shall be allowed a reasonable compensation for his services, and to appoint an assistant Secretary if deemed necessary.

ARTICLE V.

It shall be the duty of the Treasurer to take charge of all funds of the Association, and to pay them out upon the

order of the Executive Committee, taking a receipt for the same; and to render a report of all receipts and expenditures at each annual meeting.

ARTICLE VI.

It shall be the duty of the Executive Committee to select subjects for discussion and appoint members to deliver addresses or read essays, and to transact all interim business.

ARTICLE VII.

The meetings of the Association shall be, as far as practicable, governed by the following order of business:

- Call to order.
- Reading minutes of last meeting.
- President's address.
- Secretary's report.
- Treasurer's report.
- Reports of committees.
- Unfinished business.
- Reception of members and collection.
- Miscellaneous business.
- Election and installation of officers.
- Discussion.
- Adjournment.

ARTICLE VIII.

These By-Laws may be amended by a two-thirds vote of all the members present at any annual meeting.

C. E. YOCOM,
AARON COPPIN,
GEO. F. ROBBINS.



Formation of the Illinois State Bee-Keepers' Association.

SPRINGFIELD, ILL., Feb. 26, 1891.

The Capitol Bee-Keepers' Association was called to order by President P. J. England.

Previous notice having been given that an effort would be made to form a State Association, and there being present bee-keepers from different parts of the State, by motion, a recess was taken in order to form such an Association.

P. J. England was chosen temporary chairman, and C. E. Yocom temporary secretary. On motion, the Chair appointed Thos. G. Newman, C. P. Dadant and Hon. J. M. Hambaugh a committee on constitution.

Col. Chas. F. Mills addressed the meeting on the needs of a State Association, and stated that it was his opinion that the bee-keepers should have a liberal appropriation for a State Apiarian Exhibit at the World's Columbian Exposition.

A motion to adjourn till 1:30 P. M. prevailed.

AFTERNOON SESSION.

The Committee on Constitution reported a form for same, which, on motion, was read by the Secretary, by sections serially.

Geo. F. Robbins moved to substitute the word *shall* for *may* in the last clause of Section 1, Article III. This led to a very animated discussion, and the motion was lost.

J. A. Stone moved to amend the above-named section by striking out the word ladies and all that followed of the same section, which motion led to further discussion and motion finally prevailed.

Section 2, Article III, relating to a quorum, was, on motion, entirely stricken out.

Mr. Robbins moved to amend Article V by adding the words, "Thirty days' notice having been given to each member." Prevalled.

Thos. G. Newman moved to adopt the Constitution, so amended, as a whole. Which motion prevailed.

See Constitution, page 8.

J. A. Stone moved that the Chair appoint a nominating committee of three on permanent organization. Prevalled.

Chair appointed as such committee, Col. Chas. F. Mills, Hon. J. M. Hambaugh, and C. P. Dadant.

Committee retired and in a few minutes returned, submitting the following named persons as candidates for their respective offices:

For President—P. J. England, Fancy Prairie.

For Vice-Presidents—Mrs. L. Harrison, Peoria; C. P.

Dadant, Hamilton; W. T. F. Petty, Pittsfield; Hon. J. M. Hambaugh, Spring; Dr. C. C. Miller, Marengo.

Secretary—Jas. A. Stone, Bradfordton.

Treasurer—A. N. Draper, Upper Alton.

Mr. Black moved the adoption of the report of the committee on nominations. The motion prevailed, and the officers as named by the committee, were declared elected for the ensuing year.

Hon. J. M. Hambaugh moved that Mr. Thos. G. Newman, Editor American Bee Journal, of Chicago, be made the first honorary member of the Association. Prevailed.

At this point Col. Chas. F. Mills, said, "Mr. Chairman, I want to be the first one to pay my dollar for membership," at the same time suiting his actions to his words, and others followed his example, as follows:

CHARTER MEMBERS.

Col. Chas. F. Mills, Springfield.

Hon. J. M. Hambaugh, Spring.

Hon. J. S. Lyman, Farmingdale.

C. P. Dadant, Hamilton.

Chas. Dadant, Hamilton.

A. N. Draper, Upper Alton.

S. N. Black, Clayton.

Aaron Coppin, Wenona.

Geo. F. Robbins, Mechanicsb'g.

J. W. Yocom, Williamsville.

Thos. S. Wallace, Clayton.

A. J. England, Fancy Prairie.

P. J. England, Fancy Prairie.

C. E. Yocom, Sherman.

Jas. A. Stone, Bradfordton.

FIRST HONORARY MEMBER.

Thos. G. Newman, Editor American Bee Journal, Chicago.



Bee-Keepers' Association.

PREAMBLE.

§ 1. For expenses of annual meetings, per annum, \$1,200; officers to receive no salary.

§ 2. How drawn.

§ 3. Duty of Treasurer of Association.

(Asked for in the 44th General Assembly.)

A BILL

For an act making an appropriation for the Illinois State Bee-Keepers' Association.

WHEREAS, The members of the Illinois State Bee-Keepers' Association have for years given much time and labor without compensation in the endeavor to promote the interests of the bee-keepers of the State; and,

WHEREAS, The importance of the industry to the farmers and fruit growers of the State warrants the expenditure of a reasonable sum for the holding of annual meetings, the publication of reports and papers containing practical information concerning bee-keeping, therefore to sustain the same and enable this organization to defray the expenses of annual meetings, publishing reports, suppressing foul brood among bees in the State, and promote the industry in Illinois:

SECTION 1. *Be it enacted by the People of the State of Illinois represented in the General Assembly:* That there be and is hereby appropriated for the use of the Illinois State Bee-Keepers' Association the sum of \$1,200 per annum, for the years 1905 and 1906. For the purpose of advancing the growth and developing the interests of the bee-keepers of Illinois, said sum to be expended under the direction of the Illinois State Bee-Keepers' Association for the purpose of paying the expenses of holding annual meetings, publishing the proceedings of said meetings, suppressing foul brood among bees in Illinois, etc.

Provided, however, That no officer or officers of the Illinois State Bee-Keepers' Association shall be entitled to receive

any money compensation whatever, for any services rendered for the same out of this fund.

SEC. 2. The Illinois State Bee-Keepers' Association shall appoint at each annual meeting a State inspector of apiaries for one year or till his successor is elected and qualified who may if necessary appoint his own assistants. Said inspector or inspectors shall when notified of the existence of the disease known as foul brood among apiaries, examine all such as are so reported and all others in the same locality and ascertain whether or not such disease exists, and if satisfied of its existence shall give the owner or person who has the care of such apiaries full instructions as to the manner of treating them. Within a reasonable time after making such examinations the inspector shall make another examination thereof, and if the condition of any of them is such as in his judgment renders it necessary he may burn all the colonies of bees and all the comb necessary to prevent the spread of the disease.

The inspector shall make at the close of each calendar year a report to the Governor and also to the Illinois State Bee-Keepers' Association stating the number of apiaries visited, the number of those diseased and treated, the number of colonies of bees destroyed and of the expenses incurred in the performance of his duty. Said inspector shall receive four dollars for each day actually and necessarily spent in the performance of his duties and be reimbursed the money expended by him in the defraying his expenses; provided that the total expenditures for such purposes shall not exceed seven hundred dollars per year.

SALE OF DISEASED APIARY, ETC.

SEC. 3. Any owner of a diseased apiary, of honey made or taken from such an apiary, or appliance taken from such an apiary who shall sell, barter or give away any such apiary, honey or appliance, or bees from such an apiary, expose other bees to the danger of contracting such disease, or refuse to allow the inspector of apiaries to inspect such apiary, honey or appliances, shall be fined not less than fifty dollars, nor more than one hundred dollars or be imprisoned in the county jail not less than one month nor more than two months.

SEC. 4. That on the order of the president, countersigned by the secretary of the Illinois State Bee-Keepers' Association, and approved by the Governor, the Auditor of Public Accounts shall draw his warrant on the Treasurer of the State of Illinois in favor of the treasurer of the Illinois State Bee-Keepers' Association for the sum herein appropriated.

SEC. 5. It shall be the duty of the treasurer of the Illinois State Bee-Keepers' Association to pay out of said appropriation on itemized and receipted vouchers, such sums as may be authorized by vote of said organization on the order of the president, countersigned by the secretary and make annual report to the Governor of all such expenditures, as provided by law.

A BILL

For an act providing for the appointment of a State Inspector of Apiaries, and prescribing his powers and duties.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That the Governor, by and with the advice and consent of the Senate, shall appoint a State Inspector of Apiaries, who shall hold his office for the term of two years and until his successor is appointed and qualified.

SEC. 2. Said Inspector shall, when notified of the existence of the disease known as foul brood among apiaries, examine all such as are so reported and all others in the same locality and ascertain whether or not such disease exists, and if satisfied of its existence, shall give the owner or the person who has the care of such apiaries full instructions as to the manner of treating them. In case the owner of a diseased apiary shall refuse to treat his bees or allow them to be treated as directed by the said Inspector, then the said Inspector may burn all the colonies and all the comb necessary to prevent the spread of the disease, provided, said Inspector shall, before burning, give one day's notice to the owner or other person who has the care of the colonies of bees and comb, that in his judgment should be burned.

SEC. 3. The Inspector shall, on or before the second Monday of December in each calendar year, make a report to the Governor and also to the Illinois State Bee-Keepers' Association stating the number of apiaries visited, the number of those diseased and treated, the number of colonies of bees destroyed, and of the expenses incurred in the performance of his duty.

SEC. 4. Any owner of a diseased apiary or appliances taken therefrom, who shall sell, barter, or give away any such apiary, appliance, or bees from such apiary, expose other bees to the danger of contracting such disease, or refuse to allow the Inspector of Apiaries to inspect such apiary, or appliances, shall be fined not less than fifty dollars nor more than one hundred dollars.



FOUL BROOD

—AND—

OTHER DISEASES OF BEES.

*(Republished by permission of N. E. France, Foul Brood Inspector,
of Wisconsin.)*

Foul brood—*bacillus alvei*—is a fatal and contagious disease among bees, dreaded most of all by bee-keepers. The germs of disease are either given to young larval bee in its food when it hatches from the egg of the queen-bee, or it may be contagion from a diseased colony, or if the queen deposits eggs, or the worker-bees store honey or pollen in such combs. If in any one of the above cases, the disease will soon appear, and the germs increase with great rapidity, going from one little cell to another, colony to colony of bees, and then to all the neighboring apiaries, thus soon leaving whole apiaries with only diseased combs to inoculate others. The Island of Syria in three years lost all of its great apiaries from foul brood. Dzierzon, in 1868, lost his entire apiary of 500 colonies. Cowan, the editor of the *British Bee Journal*, recently wrote: "The only visible hindrance to the rapid expansion of the bee industry is the prevalence of foul brood, which is so rapidly spreading over the country as to make bee-keeping a hazardous occupation."

Canada's foul brood inspector, in 1890 to 1892, reported 2,395 cases, and in a later report for 1893 to 1898, that 40 per cent of the colonies inspected were diseased. Cuba is one of the greatest honey-producing countries, and was lately reported to me by a Wisconsin bee-keeper who has been there, and will soon return to Wisconsin: "So plentiful is foul brood in Cuba that I have known of large apiaries to dwindle out of existence from its ravages, and hundreds more are on the same road to sure and certain death. I myself took in 90 days in Cuba, 24,000 pounds of fine honey from 100 colonies, but where is that apiary and my other 150-colony apiary? Dead from foul brood." Cuba, in 1901, exported 4,795,600 pounds of honey, and 1,022,897 pounds of beeswax.

Cuba at present has laws to suppress foul brood, and her inspector is doing all possible to stamp the same from the island.

Even in Wisconsin, I know of several quite large piles of empty hives, where all the bees have died from foul brood; also many other apiaries where said disease had gotten a strong foothold. By the kindness of the Wisconsin bee-keep-

ers, and in most cases, by their willing assistance, I have, during the last five years, gotten several counties free of the disease, and at the present writing, March 12, 1902, have what there is in Wisconsin under control and quarantined. This dreadful disease is often imported into our State from other States and countries, so that we may expect some new cases to develop, until all the States shall enact such laws as will prevent further spread of the same. Arizona, New York (1899), California, (1891), Nebraska (1895), Utah (1892), Colorado (1897), have county inspectors, and Wisconsin (1897), and Michigan (1901), have State inspectors. The present Wisconsin law, after five years of testing and rapid decrease of the disease is considered the best, and many other States are now making efforts to secure a like law.

There are several experimental apiaries in Canada under control of the Ontario Agricultural College, also a few in the United States, especially in Colorado, that have done great work for the bee-keeping industry, and their various published bulletins on the same are very valuable. The Wisconsin State Bee-Keepers' Association have asked that an experimental apiary might be had on the Wisconsin experimental farm, but at present there are so many departments asking for aid, that I fear it may be some time before bee-culture will be taken up.

CAUSES OF FOUL BROOD.

1. Many writers claim foul brood originates from chilled or dead brood. Dr. Howard, of Texas, one of the best practical modern scientific experimenters, a man of authority, has proved beyond doubt that chilled or common dead brood does not produce foul brood. I have, in the last five years, also proven his statement to be true in Wisconsin, but I do believe such conditions of dead brood are the most favorable places for lodgment and rapid growth of diseases. Also, I do not believe foul brood germs are floating in the air, for, if they were, why would not every brood-comb cell of an infected hive become diseased? I believe that this disease spreads only as the adult bees come in contact with it, which is often through robber-bees. Brood-combs should not be removed from any colony on cold or windy days, nor should they be left for a moment in the direct rays of sunshine on hot days.

2. The foul brood may be caused by the need of proper food and temperature. Generally this disease does not appear to be serious during a honey-flow, but at the close of the honey season, or at times of scarcity, it is quite serious, and as the bees at such times will rob anywhere they can find stores, whether from healthy or diseased combs, it is the duty of every bee-keeper to keep everything carefully protected. Hive-entrances contracted, no old combs or any article with a drop of honey in where the bees can get to it. While honey is coming in from the various flowers, quite a portion is used direct as food for the larval bee, and with such no disease

would be fed to the bees. Such fed bees, even in a diseased hive, will hatch, as is often the case. I never knew of a case where a bee hatched from a brood-cell that had ever had foul brood in. If the germs of disease are there in the dried scale attached to the lower side-walls, bees will store honey therein, the queen will deposit eggs, or the cell may be filled with pollen, or bee-bread, as some call it. Said honey or pollen, when it comes in contact with those germs of disease, or the food given the young bee, if in the proper temperature, said germs of disease will grow and develop rapidly.

CAUSES BY CONTAGION.

I fully believe if the history of foul brood in Wisconsin was known, nearly every case could be traced to contagion from diseased combs, honey, or from some diseased queen-breeder's cages. Here are some instances where I have traced the history of contagion in Wisconsin:

1. Diseased apiaries, also single colonies, sold either at auction or private sale. Several law-suits have resulted in the settlement of some of the cases.

2. Brood-combs and various implements from diseased hives, used by other bee-keepers, and borrowed articles.

3. All the bees in an apiary dead from foul brood, and the hives having an abundance of honey in the brood-combs, said combs placed out by the side of hives so that neighbors' bees might get the honey. From those combs I lined robber-bees to seven other apiaries, and each time became diseased and were treated.

4. Robber-bees working on empty honey-packages in the back yards of grocery stores and baking factories. Said honey came from diseased apiaries, some located in far distant States, even Cuba.

5. Loaning of hives, combs, extractors, and even empty honey-packages.

6. Buying honey from strangers, or not knowing where it was produced, and feeding it to bees without boiling the honey.

7. Too common a practice of using old brood-combs from some apiary where the owner's bees have died from "bad luck," as he calls it.

8. Queen-bee—by buying queen-bees from strangers and introducing her in the cages they came in. I have traced several new outbreaks of the disease to the hives where such queens were introduced, and the queens came from distant States. To be safe, on arrival of queen, put her carefully alone in a new and clean cage with good food in it. Keep her in there, warm and comfortable, for a few hours before introducing. The shipping cage and every bee that came with the queen should be put in the stove and burned. I do not think there is any danger from the queen so treated, even from diseased hives, but I do know of many cases where disease soon appeared in the hives where the shipping-cage and bees

were put in with the colony. The great danger is in the food in said cage being made from diseased honey. I was called to attend a State bee-keeper's meeting in another State and I asked if any there had had experience with foul brood. There was a goodly number of raised hands. Then I asked, "Do anyone of you think you got the disease by buying queen-bees?" Again several hands were raised. Even bee-keepers there had traced the disease in their apiaries to the buying of queens, and all from the same breeder. If you get queens from abroad, I hope you will do with her as I have above described. Better be on the safe side.

EXPERIMENTS.

1. A prominent Wisconsin bee-keeper some years ago had foul brood among his bees so bad that he lost 200 colonies before the disease was checked. Having a honey extractor and comb-foundation machine, he first boiled the hives in a large sorghum pan, then in a kettle all combs were melted after the honey was extracted, the honey was boiled and also the extractor and implements used. The bees were returned to their hives on comb foundation he made from the wax made from the melted combs, then fed the boiled honey. Several years have passed and there has been no signs of disease in his apiary since.

2. Foul-brood germs are not always killed when exposed to a temperature of 212 deg. F. (boiling point) for 45 minutes. But in every case where the combs are boiled in boiling water, and same were well stirred while boiling, no germs were alive.

3. Foul brood in brood-combs is not destroyed or killed when exposed to the temperature of Wisconsin winters of 20 deg. below zero, and in one case I developed foul brood from combs that had been exposed to 28 deg. below zero.

4. Honey, if stored in diseased combs, acts as a preserving medium, and in such cases the germs of disease will remain so long as the comb is undisturbed. Four years at least.

5. Honey or beeswax, or the refuse from a solar or sun-heat extractor, is not heated enough to kill foul-brood germs. Several cases of contagion where robber-bees worked on solar extractor refuse or honey.

6. Comb foundation made by supply manufacturers is free from live germs of disease and perfectly safe to use. To prove this experiment beyond doubt, I took a quantity of badly-diseased brood-combs from several apiaries, and rendered each batch of combs into wax myself on the farm where found. Then on my own foundation mill I made some brood foundation. I also took quite a quantity more of said wax, went to two wholesale comb foundation manufacturers, and both parties willingly made my experimental wax into comb foundation just the same as they do every batch of wax. I then divided the various makes of foundation and selected 20 of the best bee-yards in Wisconsin, where no disease had

ever been known, had the same placed in 62 of their best colonies, and in every case no signs of disease have appeared. Those same colonies continue to be the best in the various apiaries.

SYMPTOMS OF FOUL BROOD.

1. The infected colony is not liable to be as industrious. Hive-entrance with few guard-bees to protect their home. Sometimes fine dirt or little bits of old comb and dead bees in and around the hive-entrance, and often robber-bees seeking entrance.

2. Upon opening the hive, the brood in the combs is irregular, badly scattered, with many empty cells which need inspection.

3. The cappings over healthy brood is oval, smooth and of a healthy color peculiar to honey-bee brood, but if diseased the cappings are sunken, a little darker in color, and have ragged pin-holes. The dead larval bee is of a light color, and, as it is termed, ropy, so that if a toothpick is inserted and slowly withdrawn, this dead larva will draw out much like spittle or glue.

5. In this ropy stage there is more or less odor peculiar to the disease; it smells something like an old, stale glue-pot. A colony may be quite badly affected and not emit much odor, only upon opening of the hive or close examination of the brood. I have treated a few cases where the foul brood odor was plainly noticed several rods from the apiary.

6. Dried Scales—If the disease has reached the advanced stages, all the above-described conditions will be easily seen and the dried scales as well. This foul matter is so tenacious that the bees cannot remove it, so it dries down on the lower side-wall of the cell, midway from the bottom to front end of the cell, seldom on the bottom of a cell. According to its stage of development there will be either the shapeless mass of dark-brown matter, on the lower side of the cell, often with a wrinkled skin covering as if a fine thread had been inserted in the skin lengthwise and drawn enough to form rib-like streaks on either side. Later on it becomes hardened, nearly black in color, and in time dries down to be as thin as the side-walls of the cell. Often there will be a small dried bunch at the front end of the cell not larger than a part of common pin-head. To see it plainly, take the comb by the top-bar and hold it so that a good light falls into the cell at an angle of 75 degrees from the top of the comb, while your sight falls upon the cell at an angle of about 45 degrees. The scales, if present, will easily be seen as above described. This stage of disease in combs is easily seen and is always a sure guide or proof of foul brood. Such combs can never be used safely by the bees and must be either burned or carefully melted. Be sure not to mistake such marked combs in the spring for those soiled with bee-dysentery. The latter have a somewhat similar appearance but are more or less surface-soiled, and will also be spotted or have streaked appearance by the dark-brown sticky ex-

crements from the adult bees. Please examine closely this half-tone print, which I photographed from a diseased comb containing all stages of foul brood. This comb came from the last living weak colony of a once large and profitable apiary.

TREATMENT.

"A bee-keeper who does not discover foul brood, before his nostrils remind him that there is something wrong with his bees, is not the proper person to treat the case." Dr. Howard, in his valuable book on foul brood, states: "I regard the use of all drugs in the treatment of foul brood as a useless waste of time and material, wholly ineffectual, inviting ruin and total loss of bees. Any method which has not for its object the entire removal of all infectious material beyond the reach of both bees and brood will prove detrimental and destructive, and surely encourage the recurrence of the disease." In Wisconsin I have tried many methods of treatment, and cured some cases with each method, but the one that never fails, if carefully followed, and that commends itself is the McEvoy treatment. Canada's foul brood inspector, has cured foul brood by the wholesale—thousands of cases.

MCEVOY TREATMENT.

"In the honey season when the bees are gathering honey freely, remove the combs in the evening and shake the bees into their own hives; give them frames with comb-foundation starters and let them build comb for four days. The bees will make the starters into comb during the four days and store the diseased honey in them, which they took with them from the old comb. Then in the evening of the fourth day take out the new combs and give them comb foundation (full sheets) to work out, and then the cure will be complete. By this method of treatment all the diseased honey is removed from the bees before the full sheets of foundation are worked out. All the old foul-brood combs must be burned or carefully made into wax after they are removed from the hives, and all the new combs made out of the starters during the four days must be burned or made into wax, on account of the diseased honey that would be stored in them. All the curing or treating of diseased colonies should be done in the evening, so as not to have any robbing done, or cause any of the bees from the diseased colonies to mix and go with the bees of healthy colonies. By doing all the work in the evening it gives the bees a chance to settle down nicely before morning, and then there is no confusion or trouble. This same method of curing colonies of foul brood can be carried on at any time from May to October, when the bees are not getting any honey, by feeding plenty of sugar syrup in the evenings to take the place of the honey-flow. It will start the bees robbing and spread the disease to work with foul brood colonies in warm days when the bees are not gathering

honey, and for that reason all work must be done in the evenings when no bees are flying.

"When the diseased colonies are weak in bees, put the bees, two, three, or four colonies together, so as to get a good-sized colony to start the cure with as it does not pay to spend time fussing with little, weak colonies. When the bees are not gathering honey, any apiary can be cured of foul brood by removing the diseased combs in the evening and giving the bees frames with comb-foundation starters on. Then also in the evening feed the bees plenty of sugar syrup and they will draw out the foundation and store the diseased honey which they took with them from the old combs; on the fourth evening remove the new combs made out of the starters and give the bees full sheets of comb foundation and feed plenty of sugar syrup each evening until every colony is in first-class order. Make the syrup out of granulated sugar, putting one pound of water to every pound of sugar, and bring it to a boil. As previously stated, all the old comb must be burned or made into wax and so must all new combs made during the four days. No colony is cured of foul brood by the use of any drug."

A. I. Root, of Medina, Ohio, says: "The starvation plan in connection with burning the combs and frames and boiling the hives has worked the best in treating foul brood. It never appeared after such treatment, though it did in some cases where hives were honey-stained and not boiled, thus confirming the theory or fact of spores."

All the difference from the McEvoy treatment that I practice is this: I dig a deep pit on level ground near the diseased apiary, and after getting a fire in the pit such diseased combs, frames, etc., as are to be burned are burned in this pit in the evening, and then the fresh earth from the pit returned to cover all from sight. Often I use some kerosene oil, a little at a time being poured on old brood-combs or those having much honey in, as they are hard to burn. If diseased combs with honey in are burned on the surface of the soil there is great danger; the honey when heated a little will run like water on the soil, and in the morning the robber-bees will be busy taking home the diseased honey that was not heated enough to kill germs of foul brood.

I also cage the queen while the bees are on the five or six strips of foundation. It helps to keep the colony from deserting the hive and going to other colonies.

R. L. Taylor, Michigan University experimental apiary, reports: "The plan that the colony be shaken out into another hive after being allowed to build comb for four days, I have proven in 100 cases to be unnecessary."

In Wisconsin, I, too, have cured several cases by the one transferring, when honey was not coming in very freely, but it is better, and a great saving of time to both bees and owner, to exchange in three or four days those foundation starters, for full sheets of foundation. Diseased brood-combs, and those with honey in, if melted in a sun or solar extractor, the wax, honey or residue is not hot enough to kill germs of

foul brood. This I have proven by several experiments. It must be boiled and well stirred while boiling to be safe.

I do not believe in, or practice, burning any property, such as hives, bees, beeswax or honey that can be safely treated and saved. Many times it is poor economy to save all, and as so many bee-keepers are not so situated as to keep all diseased material from robber-bees while taking care of it, the best and only safe way is to burn the diseased combs and frames.

UTAH.

Utah has county inspectors, and from one who has remarkable success I copy the report of his method of treatment:

"Wherever found, it should be dealt with earnestly and with dispatch. If the colony is weak, I recommend smothering the bees, and in order to do this without letting a bee escape, take a tablespoonful of sulphur and place it in the entrance of the hives, if there is any breeze, turn the hive so it will blow in the entrance. Then fire the sulphur and it will soon kill the bees. This should be done early in the morning before any of the bees are flying, as one bee escaping from the hive might carry the disease to any colony with which it may take up its abode. If the colony is a strong one, I would keep the entrance partly closed so as to prevent any other bees from getting in. Then as soon as fruit-blossoms come out so the bees can obtain honey I treat them. I procure an empty box of any kind so it is clean, then find the queen, put her in a screen-wire cage which is easily made. Take a small piece of screen, roll it up and tie a string around either end, cork up one end, then place the queen and a few workers for company in the cage and place in the other end cork. Put same in this box and shake all the bees out of their hive into the box. This must be done in the evening when no bees are flying. Keep the queen in this box 24 to 48 hours, allowing the bees to fly in and out as they please. Next take a clean hive with good, healthy combs or foundation and shake bees into it, letting the queen go and they will be free from disease. The old combs are melted into wax, bringing same to a good boil. Often washing with boiling water any hives or implements that might contain disease. Wherever strictly followed this has effected a cure."—C. Wilcox, Emery Co., Utah.

PICKLED BROOD.

Some seasons pickled brood is quite bad among bees, and in a few cases I have known it to reduce large colonies, even large apiaries to doubtful hopes, but those same colonies, after I gave them treatment, were in a month free from all disease. Sometimes it takes as careful handling as if foul brood. I do not believe it is contagious, for all I have seen in 60 colonies in one apiary badly reduced by it. As an experiment one of my out-apiaries had 50 colonies at one time with pickled brood. I treated them and all were soon free

from dead brood. At the same time I took 10 of the worst brood-combs where at least two-thirds of the brood was dead, and placed those combs in other strong, healthy colonies. They at once cleaned out the dead brood and reared as nice brood as one could ask for.

SYMPTOMS.

The larval bees (in last of May and through June) show light-brown spots, a little later the cappings have small holes in—the cappings are not sunken or dark-colored as in foul brood. The dead bee will be at first swollen, with a black head, dried to a hard bunch and often turned up—China-man-shoe like. The skin of the dead bee is quite tough, and, if punctured, the thin, watery fluid of the body will flow as free as water, often a little yellow or brownish-colored from the dissolved pollen from the abdomen of the bee. It has very little or no smell, does not at any time stick to the walls of the comb, is easily pulled out of the cell, is never ropy or sticky, and if the colony is properly cared for, the bees will take care of themselves. Plenty of liquid, unsealed honey and pollen near the brood, and hives so protected as to keep bees and brood comfortable on cold days and nights.

Never put bees on old black brood-combs, or those with dead brood in; better make wax of the combs and give the bees full sheets of brood-comb foundation.

TREATMENT.

Keep all colonies strong, with plenty of unsealed honey near the brood, and if hives are properly sheltered so as to be warm on cold days and nights there will be little or no pickled brood. If the queen is old, shows weakness by putting several eggs in one brood-cell and nursing several others, so that the brood is patchy, I would kill such a queen, feed the bees a little, and when queen-cells were started, remove them all and give them a queen and bees, between two of her own brood-combs from a hive where she has lived. I do not think pickled brood is often the fault of the queen, but rather a lack of proper food and heat in the hive. In most cases a shortage of liquid honey, or moldy pollen, even in hives with plenty of sealed honey in the outer combs. There is a time in spring in Wisconsin between dandelion and white clover bloom when there is no honey coming in from flowers and often cold days and nights so that the live bees consume the liquid unsealed honey first, and cluster in a compact body to keep warm, the result often is the larval bee just changed from the egg to a tender little grub, is either starved, half-fed or chilled so that it grows slowly and too often dies, and we first notice this about the time white clover honey begins to come in. In other parts of the State, where pickled brood appeared it was from the same cause, and at other dates, which was due to a difference of time of honey bloom.

Wherever I fed daily some honey or even sugar syrup, and kept the hive warm, all dead brood soon disappeared;

while in the same apiaries other colonies affected and not so treated, continued bad for some time, but got rid of it as soon as treated.

Strong colonies of bees in the fall with a young laying queen, and an abundance of good honey sealed or capped by the bees, if properly cared for during winter whether in the cellar or in chaff hives, wintered out of doors in sheltered location, seldom have pickled brood, chilled or other dead brood, or dysentery, and are the colonies that give their owner profit.

BLACK BROOD.

Black brood is another fatal and contagious disease among bees, affecting the old bees as well as the brood. In 1898, 1899 and 1900 it destroyed several apiaries in New York. Last year I found one case of it in Wisconsin, which was quickly disposed of. Dr. Howard made more than a thousand microscopical examinations and found it to be a distinct form of bacteria. It is most active in sealed brood. The bees affected continue to grow until they reach the pupa stage, then turn black and die. At this stage there is a sour smell. No decomposition from putrefactive germs in pickled brood. In black brood the dark and rotten mass in time breaks down and settles to lower side-wall of the cell, is of a watery, granulated, syrupy fluid, jelly-like, is not ropy or sticky as in foul brood, and has a peculiar smell, resembling sour, rotten apples. Not even a house-fly will set a foot upon it.

TREATMENT.

Best time is during a honey-flow, and the modified McEvoy plan, much as I have treated foul brood, by caging the queen five days, remove the foundation starters and give full sheets, keeping queen caged five days longer. As great care should be taken of diseased hives, combs, honey, etc., as in foul brood.

DYSENTERY.

Dysentery among bees in Wisconsin in the spring of the year, often is quite serious. Many colonies die with it. Dysentery is the excrements of the old bees; it is of brownish color, quite sticky and very disagreeable-smelling, and is sometimes mistaken for foul brood.

CAUSES.

1. Bees confined too long in the hives, so that they can no longer withhold their excrements, and are compelled to void the same on the other bees and combs.
2. Poor winter stores gathered in the fall from honey-dew, cider-mills, sorghum mills, rotten fruit, also some kinds of fall flowers.
3. Old and especially moldy pollen or bee-bread.
4. Hives too cold or damp. If moisture from the breath of the bees is not carried out of the hive by some means, such

as through a deep cushion of some kind over the bees that will absorb moisture and at the same time retain the heat, or by some means of ventilation, so that all is dry and comfortable. If mold forms on the combs or cellar so damp as to form mold, there is great danger the bees will have dysentery and die.

TREATMENT.

1. First of all, have an abundance of combs of sealed clover or basswood honey in brood-frames carefully saved, and see that each colony is wintered on such food. Three or four such combs will winter a fair colony safely if confined on those combs late in the fall and the hive contracted to fit the same. This is one of the most important conditions for success in wintering.

2. If in the fall the bees have gathered this unwholesome honey from the above-named sources, it should all be extracted and either exchanged for those honey-combs, or feed the bees good honey or sugar syrup until winter stores are secured. This should be done before cold weather in the fall.

3. Hives contracted and made comfortable, whether in cellar or outdoors.

4. If wintered in chaff hives outdoors with feed as above directed, and there come one or two warm spells during winter so that bees can have a cleansing flight, they will not have dysentery or dead brood, and will be much stronger when clover opens.

If wintered in the cellar the bees will not need as much honey, and if the winters are generally long with doubtful warm spells, the cellar will be best. But to keep the bees from dysentery, so often fatal to cellar-wintered bees, they should have such winter stores as above spoken of, then the cellar kept at a uniform temperature, about 42 deg. F., ventilated so the air is fresh, and no mold will form in the cellar. Fresh air-slacked lime on the bottom of the cellar may help if it is damp or has poor air.

5. Dysentery will not appear if bees are kept on sugar syrup, or best-grade white clover or basswood honey, and are in a dry place, either sheltered by cellar or chaff-hive.

FORMALDEHYDE EXPERIMENTS.

Formaldehyde, by the medical experts, is now considered the best of all disinfectants; I have great faith that we may yet learn its use, and save infected foul-broody combs.

Mr. C. H. W. Weber has conducted some valuable experiments. Early in 1903 I decided to do some experimenting, having inspected several infected apiaries. We got a carpenter with well-seasoned lumber to make some perfectly airtight boxes to hold brood-frames, two tiers deep, as per the photograph herewith. Mr. Weber's lamp was used in several trials. Where we used a greater amount, and longer confined than instructions called for, the combs with all cells unsealed,

containing dried scales of foul brood, after fumigating and airing were placed in hives with bees on them. The chemical action was such that the bees at once cleaned them out, and no signs of disease has appeared in them since. But in those combs having honey or pollen in the infected cells, or those capped over with brood underneath, they were so covered that the gases did not destroy the disease, for those treated July 27, in 41 days each of those combs had foul brood again.

To prove that the gases do not go through wax-cappings, I took some healthy hatching brood, fumigated it, then took it out and cut away the cappings, and some of the bees had life enough to crawl.

I believe we should go slow and do careful experimenting. I know old, diseased combs are worth more rendered into wax, or those containing honey or pollen in infected combs are not safe to use again. A sheet of comb foundation is worth far more. I believe it is possible, if *carefully* done, to fumigate infected combs where there is nothing over the disease, so that those combs can be saved.

Platteville, Wis., March 17, 1904.

N. E. FRANCE.



REPORT

—OF THE—

Illinois State Bee-Keepers' Association.

The fourteenth annual session of the Illinois State Beekeepers' Association was called to order at 10 a. m. November 15, 1904, in the G. A. R. Hall at the Court House, in Springfield, Pres. Smith being in the chair.

Mr. George W. York, of the American Bee Journal, offered the opening prayer.

Membership dues were taken and badges were given.

The report of the last meeting was not read, as it had been printed in the Third Annual Report of the Association.

SECRETARY'S ANNUAL REPORT.

During the last year the work of the Secretary has been much greater than any year since our first and second annual Reports were published, as we have during the year published the Third Annual Report.

We also made an effort to secure a larger membership, and, as you are aware, sent out (through the assistance of Mr. York), about one thousand letters, with a blank for membership application for return, and were successful, in securing 118 members; and, we believe, had it been done before so many had sent their dues to the National, we would have doubled that number, as the \$1.00 fee also gave them membership in the National Association as well as in the State Association.

We would suggest the same action for next year, and that it be done as early in the year as possible.

For several years past the Treasury has been in debt to the Secretary, and it was not necessary to turn over what we did not have. It was caused by voting the largest part of the fees received from members to the subscription for the American Bee Journal. But last year we voted to give each member, a membership in the National also for the year, and with the increased amount going into the treasury, and the growth in membership, the treasury has paid up the Secretary and created a surplus besides. We did not make a report of the amount, as our book is here for the inspection of the Auditing Committee.

At the last year's meeting one of the members present moved that all throw in and make up the amount due the Secretary, but the Secretary did not desire such a move, assuring the members that he had faith that a gain would be made that would supply the deficiency.

Since we obtained our appropriation, and had the last Report to publish, the Secretary's work has been, as we said, very largely increased, and while the work for a number of years has been gratis, the last year the labor was such as to cover a good deal of valuable time in getting together the matter for the report, correspondence, etc.

We have been sending 50 cents for each member to the National as fast as the fees came in, and, then, to be compelled to settle with the Treasurer for each of these small amounts, as some seem to think it no trouble to do, it would cause that much more extra time and postage, which is more than necessary.

JAS. A. STONE, Secretary.

We have not made a written report but are ready to turn our book into the hands of the auditing committee, or can in five minutes give the balance.

Dr. Miller—You should give an account.

Mr. York—I suggest that Mr. Stone make a financial report tomorrow morning.

Pres. Smith—You might as well make it now and be through with it. The Treasurer's report was submitted; what shall we do with it? If there is no objection it will be filed.

Mr. Bowen—I think as a matter of business both the Secretary's and Treasurer's reports should be made in detail. That is the better way to do; then at the end of the season there should be an auditing committee to see that they are correct. We cannot keep them too correct. The best thing is to make a written report and submit it to the committee, and let them audit the accounts. I speak as a matter of business.

Pres. Smith—Your remarks are well taken.

Mr. Stone—I can present my book for a committee and they can see it.

Mr. Bowen—Let Mr. Stone make his report tomorrow morning, and then, if necessary, report that to an auditing committee. None so perfect that we don't sometimes make mistakes. While our Secretary may be absolutely correct, it may have something not correct; we want to fix it so there will be no misunderstanding hereafter. I think it best that every man's account should be audited, no matter how correct it may be. I will suggest that they be allowed till tomorrow morning to make their reports.

Pres. Smith—We will report that tomorrow morning.

Mr. Becker—I did not bring the voucher for the amounts; if necessary I can go and get them. They would be all right where we have an auditing committee to audit the accounts. As far as the Secretary and Treasurer are concerned, as Mr. Stone said, we did not have money enough a year ago to need a Treasurer, consequently we did not need a committee to audit the accounts. Now, of course, we have a Treasurer, and last year, from the State appropriation, we paid out and had to report to the Governor, twice a year, March 1 and October 1.

Dr. Miller—Did I understand you to make a motion?

Mr. Becker—No, we will just continue till tomorrow morning.

Mr. Black—We received money from the State; we know the people are suspicious, and if we get this we believe it is for our good, and we ought to be able to show a clean balance sheet so that if anyone inquires where that money went we can show it, and we should keep our accounts in good shape.

Dr. Miller—The reports should be itemized as far as possible.



President J. Q. SMITH.

Mr. York—So if the State Legislature wishes to examine it we ought to let them see it. It is right that they should know where the money went. If they see where that money went they will not object to giving more. The treasurer can copy that in the report.

Dr. Miller—If I were the Secretary or Treasurer, I should demand that the accounts be audited, and put them out of the possibility of anyone throwing stones. The best thing to do is to make an impression on the State officers, so far as that report is concerned. Say there is so much money paid to Mr. Moore, so much to the State inspectors. Take, for illustration, Mr. Smith. Some one might say, "I don't be-

lieve he did the work; I believe he went on a drunk and spent that money, and then put it in his bill." What assurance have we that the money was paid out? It looks a very difficult thing to get down in black and white so as to tell what it went for. How are you going to know how he spent that money, whether or not on a drunken spree? I confess it looks difficult to me.

Mr. Stone—There is an Association in this county that asked us to be their Treasurer. We said we will be Treasurer if the President and the Secretary will sign the checks with us, not leaving any possibility of making mistakes. It is the same here. The law provides that for every dollar paid out the President and Secretary shall sign the voucher. When the checks come back we don't have a thing to do but look them over and see if our signature is there. The only trouble that can possibly come up is that the President is also Inspector. It makes it possible for him to sign the order that is given to himself, but still the other two have to sign. We are not going to elect a man to fill the two offices, if we do not trust him.

Mr. York—I could have said there were 2,500 copies of the Report, that would give some idea what I could have done with that money. Everything should be itemized.

Mr. Becker—I have all the bills at home in a book, and could produce them. I did not think it necessary to carry on this report how many days inspecting was done, and how many copies were published. I did not think it necessary, but I have the bills at home.

Mr. Bowen—I think Mr. York is mistaken as to that bill having been sent to the Secretary. The Secretary should submit that bill. The Treasurer is not supposed to know anything about that at all, all he has to do is to pay it on the Secretary's advice that the account is correct. He finds the bill submitted and approved, he finds the items are wrong, then those things should tally up. The Treasurer should make a report and have an itemized account of everything. The business part is to submit your bills to the Treasurer or Secretary and let them pass them to the Auditing Committee, and after that let them sign a warrant on the Secretary or Treasurer. Then you have the whole business.

Mr. Black—The business man should understand that if we expect to get any money we must go at it in a business manner.

The Secretary—Why all this discussion? When our Report comes out in print, and, before the legislature, some member will say: "Why, they have been misappropriating the funds we gave them—their accounts are all tangled up. The Treasurer has no vouchers to show what he has paid out. The Secretary has made no report of the money he has handled, and the State Inspector went off on a drunk, and misspent the money," etc. When the whole truth is, vouchers for every dollar and cent that have been paid out have passed through the President's and Secretary's hands, been signed by them, and now are in the hands of the Treasurer,

where the law says they must be, and he will have them here in the morning, to place in the hands of the Auditing Committee. And the Secretary, though he did not report the funds he handled, has placed his book and whole accounts in the hands of the Auditing Committee, and they are so simple and complete that a balance can be struck in two minutes; but on account of membership fees coming in at all times of the year, no report could be made till the last moment, when you can plainly see how much (?) time the Secretary has had to spare. And further, the Treasurer has made his reports to the Governor, as the law requires he should do.

Pres. Smith—Don't any one think we are criticising them at all; we are just getting them fixed up for the future. They can submit those bills and get things itemized.

Dr. Miller—I did not say our President was on a drunk, positively! I don't think so at all.

Pres. Smith—Any further remarks? I believe the time is too short to read any papers; any suggestion any members have will be considered.

Mr. Becker—I believe the committee ought to be here at Springfield to audit their accounts. Were Mr. York to send in his bill to the Secretary, and you of the Auditing Committee live at Quincy, and at Decatur, why, it would be an expense to come here and audit his accounts. Why not take them before a Notary Public and swear to them? I think that would be all that is necessary, then at the end of the year have an Auditing Committee audit these books. But I don't believe it would be the proper thing to put before an Auditing Committee when the Secretary could do the work. Make an affidavit to it, sending a bill with it, so much for so many days' inspecting, and so much expense for other things.

Pres. Smith—The same way with other things, printed matter, postage, mailing. Itemize all bills. I don't think it necessary to bring them up.

Pres. Smith—I think it might be a good idea to appoint an Auditing Committee at the beginning of the session to go over and report the necessary business.

Mr. York—The law provides that an executive committee can audit all payments. The executive committee shall approve all bills; that is provided in the law. I think we should have an auditing committee appointed the first session and report the next day.

Mr. Bowen—I say that bills should be submitted to the executive committee hereafter whether they are in the insane asylum or where they are.

Mr. Becker—I believe that if we are to ask for an appropriation before the next Legislature we ought to get our accounts in as good a shape as possible. I am Treasurer, and I move that the chairman appoint a committee of three to audit the books, and report at 8 o'clock tomorrow morning. [Motion seconded and carried.]

Pres. Smith—He practically said he would appoint the committee. What business has the State with the accounts

of this bee-keepers' convention aside from the appropriation? I don't care where my account goes, just so it goes to the Treasurer of the accounts. I have only one account, that is the appropriation from the State of Illinois. Your Secretary and President drawing accounts audit them; no individual member has anything to do with us.

Mr. Stone—I let every member of this Association see my book. I don't want it understood that I want to keep anything back. The auditing committee has a right to have it. But as our President says, our Auditing Committee has nothing to do with the appropriation except as our Executive Committee consent, that is the State Auditor's business.

Pres. Smith—The hour for adjournment has arrived.

Mr. Stone—We ought to mention whether or not we are going to have a night session. This hall is engaged for another committee. We can get a room in the State House or a room in the hotel.

Pres. Smith—We can decide that this afternoon.

Mr. Stone—We ought to decide it now, so we can speak to the janitor.

Motion made and seconded that there be a night session, and motion lost.

Adjourned.

FIRST DAY—AFTERNOON SESSION.

Vice-Pres. Black in the chair.

The meeting was opened by a song by Dr. Miller and Mr. York.

Mr. Bowen—What objection is there to having a paper read now?

Mr. Black—None at all.

Secretary Stone then read the following paper by C. P. Dadant, of Hancock county, on

CO-OPERATION AMONG BEE-KEEPERS.

Your invitation to me to attend our annual State Bee-Keepers' meeting and deliver an address has been duly received, and I would gladly comply with your request were it not that the date conflicts with that of another congress—the Upper Mississippi River Improvement Association—which is of very great interest to the cities along the big river, and for which I am delegated by our city. I trust that, in view of the importance of the matter, our bee-keepers will excuse my absence.

I believe that the most important matter before the bee-keepers of the country at the present time is the matter of coöperation. The methods of bee-culture have been so improved in the past 50 years as to make the production of honey an easy matter for all practical men. The old foggy bee-keeper and the "gum" have been relegated to the background. The moth-trap has been put away with the spin-

ning-wheel of our grandmothers, and neither of them is brought to light, except as a relic of the past. The essential questions today are: How to market our honey, and how to protect ourselves against damage, either through the contagious disease, foul brood, or through the ignorance or dishonesty of those who oppose our interests? The comb-honey manufacture yarns, the spraying of fruit-trees in bloom, the prejudice against bees because of the untrue accusation that bees damage flowers or injure sound fruit — all these and many others are to be warred against. To do it safely, we must unite.

We hear on every side of the success of the great trusts which are formed in the manufacture of everything, and of the enormous profits derived by coöperation. The truth is, that association is the key-note to success today. I dare say that of those who will hear this paper read, there are very few, if any, who do not belong to some association, for profit or comfort. The life insurance and fire insurance companies are nothing but trusts for our benefit. The secret societies, for mutual help—Masons, Odd Fellows, etc., are all in the direction of coöperation. Our bee associations, no matter how insignificant and weak they may be, are all evidences of the need of association for mutual information, and ultimate increased comfort.

Some of our State associations have already secured some very positive benefits from association. A number of States have efficient foul-brood laws and foul-brood inspectors, who help keep down this disease, which is really the only disease that nature has put in our way. As bees increase in numbers throughout the country, the danger of epidemics increases, and therefore the precautions against all possibilities of disease should increase. When bee-keepers lived 25 miles apart, and bees existed only in the forests, an epidemic was soon stopped, like a fire without fuel, by want of something to feed on. But since bees are becoming one of the institutions of the farm or of the suburban garden, there is an increase of risk which must be warded off.

I notice the same danger in other lines. A small vineyard runs less risk of black-rot than a large one. A farm yard containing a couple pigs is in less danger from hog cholera than one containing a couple hundred. So, as we become more and more numerous there is more and more need of coöperation, to defend ourselves by mutual understanding and instruction. It is necessary to obtain laws in each State regulating the control of foul brood, and sustaining the honest producer against the adulterator who tries to sell a manufactured product as a product of the farm.

There is also need to advertise our business so as to help the sales of a healthy and pure product; there is need of placing before the masses a very plain statement showing that the canards concerning the alleged manufacture of comb honey by machinery are all a fake. For these purposes, and for many others which do not come to my mind now, and

also for purposes of which we have no present adequate idea, it is absolutely necessary that we should unite—coöperate.

The National Association, which a few years ago numbered only as many members as met together each year at one selected spot in the United States, now numbers something over two thousand members. Although this is a great increase, it is nothing compared to the possibilities of co-operation, whenever we convince our brother bee-keepers that it is to their interest to unite for the common good. Instead



C. P. DADANT.

of two thousand, we must have twenty thousand members. Each State must form a nucleus, sending its delegates to the meetings of the National congress, and the Association must sooner or later send its ramifications to every spot where bees are kept, in the length and breadth of the land. When this is done, our bee-keepers will no longer go to their town groceries and ask them what prices they pay for honey, but each will be posted from headquarters, and will go to the retailer with a statement something like this:

"Our sales headquarters state that the crop is short in such and such States; that the honey is expected to be in demand in such or such localities; and that the prices, considering prices of other sweets, may be expected to range about so much. Therefore I have placed the following prices on my honey."

Let no one think that this is impossible. An impossible thing is to get a fancy price for your product, but there is not the shadow of a doubt that a plain understanding as to the resources and the demand will bring about the securing of fairly profitable prices. No one can produce anything at cost, or below cost, and keep it up. At present we have many friends who produce honey and sell it at less than the cost of production, because they are working individually without any information as to the value of their product. We may expect paying prices for our crop, if, when we put it on the market, we know just what to expect, and if we feel that there is a distributing point from which our surplus may be handled at the lowest possible cost.

I know that some of our members may consider this as romance, but let me tell them that this romance is based on facts. We see thousands of plain evidences that an understanding of conditions and an increase of facilities for distribution is productive of great benefits to all. The cost of coöperation is insignificant, compared with the results. The only thing that may discourage some of those who hope for success is that large coöperative combines are not built up in one day. We must unite and *stay* united until we succeed.

It is not only in progressive America that the ideas of union are taking root. Even in our pursuit of bee-culture, we see this principle taking the lead a little more every day. The bee-papers of nearly all foreign countries are discussing association and coöperation. In Belgium, in France, there are some tangible steps taken. The October number of the Italian "L'Apicoltore" contains an address from Mr. Capponi, before the third National Congress of Bee-Keepers, on "Protection to the Bee-Industry," in which he urges his brother bee-keepers to unite, as "no great results can be obtained if we do not act as '*viribus unitis*'—united men."

The United States of America are a living example of what can be done by "*united men*."

C. P. DADANT.

Mr. Black—Any other papers?

Mr. Stone—Mr. York has one from Mr. Moore. We will ask him to read it, but we will have it when Mr. France is here, as he has an address on the same subject.

Mr. Primm—Mr. France is here now.

Pres. Smith took the chair.

Mr. Stone—He keeps pretty quiet. Let us have the paper.

Mr. York then read a paper from Mr. Herman F. Moore,
on

STATE INSPECTION OF APIARIES IN ILLINOIS.

No more interesting occupation can be imagined than that of an inspector of apiaries. Early in the summer of 1904 the writer got his commission from Hon. J. Q. Smith, Inspector of Apiaries for Illinois. Soon after he started on his rounds among the Cook County bee-keepers.

Quite a number were visited who kept bees in box-hives, and never saw the interior of a brood-nest from one year's end to another. Some of these said their bees had nearly all died out, that they had not done well, etc. Of course in such cases it might be necessary to break up a colony or two of the weakest live ones, to make a thorough examination, transferring the bees and combs to another hive. In the cases that I have in mind the parties were somewhat ignorant of our language and customs, and were entirely unwilling to have the hives touched, almost refusing to let me go into the back yard to have a look at the outside of the hives. Of course the colonies might be diseased, and the losses might have been caused by disease, but under the law as it stands, an inspector has no power to touch a hive for any purpose, without the consent of the owner, and the disease continues to spread in all directions from an infected apiary. By all means should the legislature be asked to give a drastic law, similar to the Wisconsin act. Otherwise it seems like wasting the money.

In my work of inspection I pass the home and apiary of a near neighbor and friend. He is an old-timer, having kept from 100 colonies up and down for 20 years or so. I never supposed his bees had the disease until one day I made him a formal call, asking him how his bees were. His answer, "They have got it," expressed the situation. We spent some time that day, and another day I returned and we examined nearly the whole apiary, and found 4 out of 5 colonies had foul brood. His loss will be over \$100.00 this season, by the disease. I questioned him as to where they could have gotten the infection. He named a party a mile away as the likely one. He said further that he had allowed the bees to clean out a honey-barrel that had been shipped in from Wisconsin. I visited the party named and found only the lady of the house at home. I told my errand. We went out to the colonies, and found 3 dead and only 1 alive. The live one I opened without smoke, and found a few bees on three frames and brood on two frames. They were in the last stage of foul brood. Now, I should have had the power to burn up the whole outfit, except the hives, on the spot. I urgently requested the lady of the house to have them burned up at once, and she promised to have it done. My time was too short, and the ground too large to get over it the second time, so I don't know whether it was done or not.

Now here is the condition that confronts us: The big State of Illinois has 102 counties, with about 350 apiaries

to the county. Suppose an inspector can reach 5 apiaries in a day, it would take 70 days to cover one county effectually. This does not seem far out of the way when you remember that second and third calls must be made on a certain number of them. Seventy days to a county, 102 counties—7140 days' time to inspect the State. Suppose each deputy could put in 6 months—May, June, July, August, September, October, and put in 25 days in each month, which would make 150 days for each inspector. It would take about 48 inspectors to cover the ground. Allow \$5.50 a day for each inspector—\$4.00 and \$1.50 expenses. That makes \$39,270 as the sum needed to cover Illinois properly in one season. The moral of this is that we must ask the legislature for \$5,000 at the very least.

In order to get the money we must show them what was done with the money already given us the past two years. We must *make a report* of work done and money expended. We must show why we need a new law, and why we need more money. This report must be in proper form and addressed to the Governor and the legislative bodies. It must not be too voluminous, for they will not read and understand it if too many words are used. It seems fairly certain that we can get the largely-increased appropriation if the proper means are used. The Hon. H. W. Austin has consented to introduce our bill. You may remember that we would have had no law in 1903 without his aid. He recognizes the fact that even \$5,000 is an insignificant sum to cover the great State of Illinois.

It seems to be a fact that the aid of the Chicago-Northwestern Bee-Keepers' Association is necessary to the success of this plan. Let us suggest that a clause be incorporated in the new law to give the control of the fund to a joint board composed of the executive committees of both associations equally. It seems as if under such an administration the largest constituency could be reached, and the greatest good done to the greatest number. The Chicago-Northwestern is looking forward to great things. Two thousand invitations have been mailed for the coming convention at Chicago, Nov. 30 and Dec. 1, 1904. If these two of the best associations in America join hands, there will be no limit to their usefulness.

HERMAN F. MOORE,

Secretary of Chicago-Northwestern and Member of
Illinois State.

Mr. Smith (Mr. Smith took the chair)—Any further papers?

Mr. Stone—We would like to hear from some one, and suggest that we call on Mr. France for a talk in the line of foul brood laws and foul brood inspection.

Mr. Smith—Mr. France, if you would consent we would be glad to hear from you. Mr. France is foul brood inspector of Wisconsin.

A TALK ON FOUL BROOD AMONG BEES.

Mr. France—I am here to help you in your legislative problem. Conditions are much different here, and I don't know how to approach the financial part. When I was sent by our Association to ask for our Bill, the first thing that confronted me was, "How many bee-keepers are there in the State?" I don't know. And we had to confess to the Legislative Committee we didn't know. "Give us an estimate. What does the bee-business amount to in your state, anyhow?" We had nothing to show, and they said, "What are you asking for money for, if you don't know your own business?" They moved indefinite postponement, and we were turned down for two years. Get facts!

Two years later we came again. Same problem on the start. "How many bee-keepers have you got in the State?" There are 10,500 bee-keepers who are voters and tax-payers, and who by their votes helped to send you here. They are the ones asking for their respective rights. Suppose you had all the honey for one year in your State put together, what would it amount to? It would be 150 car-loads. If in 4 1-4 by 4 1-4 pound section boxes, and boxes touching, they would form a walk of comb honey from Madison to Milwaukee and back, or a distance of 150 miles. Then I took the State map and drew a line across it representing the valuation of the honey product, compared with other agricultural products. It became interesting, and at the close the committee reported in our favor. Another committee was to be heard from in a few days and we thought everything was nice, but, alas! we met a new problem. When I went before the committee the Chairman was sick, and the temporary chairman was opposed to the Bill. He made light of it when the Bill was called up for consideration. He did not know whether it was bees, flies, bed-bugs or what, but said, "as the majority of the committee is here, I guess we can 'do this man up'." I was asking in behalf of the State organization of bee-keepers, delegated by them as a committee of one. I did not want to plead before that committee with this chairman opposed to it. After considerable time pleading to have its continuance they were going to move for indefinite postponement. My last dying chance. I said, "Gentlemen, if you vote on this Bill, I ask a copy of every man's ballot which way you vote. I, and the bee-keepers, who helped to send you here, want to know how every man on this committee stands." If you want to hit a politician ask him how he votes.

I went immediately from that committee room to the hotel, and from a list of the Wisconsin bee-keepers I wrote to all the bee-keepers in the county from the district, of the temporary chairman who was opposed to the Bill. When I went back the next week the chairman was there with the temporary chairman, and he said, "France, did you ever go to a revival meeting?" "Yes, sir." Well, I am converted. How did you get all the bee-keepers of my county down to

the depot Friday night? We will support everything you bee-keepers ask for."

Why did he oppose the bill before? Because not a bee-keeper had said a thing to him about it, and he was opposing everything asked for a State appropriation, till he knew it was just and right. You may leave it to a committee to do the work, but you will have to do your part. There will a time come when it will need every individual effort.



Inspector N. E. FRANCE.

As to the amount of the appropriation for Illinois, I am sure that this will be asked: What have you done with the appropriation already given? What have you accomplished with it? You will report the power and authority of your inspector lacking. While I was in St. Louis, in September, 1904, I visited an apiary in that city, and found infected colonies contracted from this State. Now that ought not to be the case. Bees in Illinois have become infected, and it is infecting bees in other States.

I hope you will have as good a law as Missouri will have by next spring, but your inspector must have authority. I went to an apiary and when the man found they were infected he wrote for me to come at once. I said, "Are there any other bees near you?" There was another apiary in sight. "Well, let us go over there." I went over there and saw a young man just coming from the field. "Are these bees yours?" "Yes, sir." "May I look at them?" I said I was the State Inspector, sent there by order from the Governor, to see if the bees are healthy. "I don't care," he replied. I looked for something to burn in the smoker. Saw a straw-pile near and started to the straw-stack. I lighted the straw in my smoker and started to the hive. The boy looked on. Soon from some place nearby a man came and said, "Here what are you doing in here? You get out of here and leave the premises right quick." Well, it startled me. I said, "I beg your pardon, are these hives and bees yours?" "Yes sir." "You get off the premises!" "Under what conditions do you want me to leave? I am State Inspector of Bees." "I don't care; you get off right away."

I simply turned to my Bulletin No. 2, and said, "Allow me to read you this page, and I will get off without any trouble."

"If anyone refuses to allow the Inspector of Apiaries to inspect such apiary when necessary, he shall become liable to a fine of not less than \$50 nor more than \$100, or be imprisoned in the county jail not less than one month or more than two months."

When I returned in a few days the man was in the granary. They had sold a car-load of oats and were sacking them. When I got to the granary door a large dog met me and kept me from going further, and while I was petting the dog the man came to the door to see what the dog was barking about and, without speaking to me, called his sons, who were in the yard. I had been warned to take a marshal with me. I said, "I have the authority and power of sheriff; I don't anticipate any trouble; I will go around a long way before I will fight." I did not know what he meant by getting two big boys, but he said, "You help this man here sack oats; that bee-inspector is here."

He came down and pulled off his coat and I wondered what was coming. He said, "Mr. France, I owe you an apology. I was a little too fast the other day. Let us look at the bees." We looked over the bees to his satisfaction and mine, did what was necessary to do, and then he took me to a train that I might go home, and asked me to come again, and stay over night. Now, without the power to inspect, your inspector is not in a condition to do much good. If Illinois inspectors were ordered off the premises they would have to go. If he were allowed to inspect and give instructions on how to treat the bees, some people would promise that they would follow his instructions, but after he is gone they don't do it. You want your law changed. What would you do with your Health Commissioners at large, if they were

not in a position to enforce the law? You need the authority, but the question is, how are you going to get it? By coöperation. Lock hands together by uniting all local associations in Illinois with the Illinois State Association; let us have a plan to work with for that purpose and get your needs. But one word of caution: Get your inspector well backed with authority.

They changed our law in Wisconsin by a vote of 62 to 8 to grant our additional fund, from \$500 to \$700 per year. We have the capitol to rebuild and other bills to meet this winter. You know the conditions existing in your State, but the thing you must have this winter, is the backed authority of an inspector, and enough of them to cover the district. Too long a term of few officers won't accomplish work like an army of them on shorter terms. Wisconsin, Utah, California, Colorado, Nebraska and Minnesota are some of the States that have foul-brood laws. This winter I expect to go to Pennsylvania to aid them. They met at Harrisburg, Pa., Dec. 6 and 7. We need an inspector just as we need a State veterinarian to look after the health of the farm-stock. I believe it is your right to have an inspector, and I believe you can get it if you ask for it. Do Illinois bee-keepers pay taxes on bees? All paying taxes on bees rise to your feet. (4.)

Mr. Black—The assessor asked me, have you any bees, and how many colonies, but no valuation was placed on them, and whether they were assessed I don't know.

Mr. Coppin—They have always left bees out for me.

Dr. Miller—We are switching off the track. Go on Mr. France.

Mr. France—The question they will ask is, "Are your bees assessed, and, if so, what is the assessed valuation?" There is a law in Utah that causes bees to be assessed, and one in New York and Iowa that forbids bees being taxed. I don't object to bees being assessed. For 27 years my home apiary was assessed. I was out when the assessor came last spring, and I asked him later how many colonies of bees did he put down. He hadn't put down any, and before I went to bed I followed him up and said, "Have you got my bees on the roll? Well, I want them there." He was surprised. Who ever heard of a man wanting more property on the assessment blank! Well, I want them in; put down 150 colonies in the home yard, valuation at \$1.50 per hive, about the average of where the receipts were running in our State.

Now here is the point: The city bee-keepers have made more trouble in behalf of the law than all the rest combined. I remember a few years ago the tax-collector said, "France, you have 15 cents road tax to work out in this district." I would rather pay it than work it out. I would rather have bees mentioned on the assessor's books. If you want the good-will of your neighbors, be good to them, and you will find it will pay you to have the bees on the assessment blank. I went before the State Board asking that it

be put on the roll for this year. Whether they will do so or not, I don't know, but I will work for it all over the States. I believe it is just and right that bees be assessed, but if you begin to change the assessment roll there is a danger line. I believe it was in this State, four years ago, that the question was brought up before the Board of Assessors, and I was asked what we were doing in our State, and I said bees are assessable property and so is poultry. I believe they are assessable, I don't know why they should not be, but don't fight on account of the few pennies the taxes amount to. It will help you. I tried in Wisconsin once to make the foul brood expenses self-supporting in this way: Have the State levy a tax of 2 cents on every colony as a reserve fund; in other words, let the bee-tax support their own expense. The bee-keeper who was keeping over 50 colonies of bees wanted it passed, but the man who was trying to keep a few bees in old boxes was fighting it, and enough of those men responded to rule it out. I believe in Colorado that they are supported by a tax in that way.

Dr. Miller—I admire the common sense of Mr. France, but I believe our law ought to be changed. Some time ago when we were trying to get the law, I was told that we had a foul brood law, and I quarreled over it a good deal and then had to back down and say we had none. But we can't change the law till we get the law. We had the appropriation but we had no law that compels the suppression of foul brood. Don't understand that I am undervaluing your taxes. It paves the way to ask for a law to prevent foul brood, and I am more thoroughly convinced in the belief that we need a foul brood law than I was before. If Mr. France was not backed with authority he would have been ordered away in more cases than he was. We need, and I am only saying it over again what Mr. France just said, if necessary to make it stronger, that we need that power to let a man go in and say, "I have a right to see if your bees have foul brood," and I want to see every bee-keeper and every experienced man in America exceedingly anxious that there should be a law for the suppression of foul brood, because I don't want the disease in my bees and I want the law to prevent its coming. It is not the man alone who has foul brood that wants the law. He can cure it just as well without it. It is the man without it that needs the law. There has been too little feeling that we need that power. Now the Legislature has said that money should be used to suppress foul brood. Now you can say, Will you give us money or help; we want you to say that the inspector has power, and till you give us that power we are seriously handicapped.

Mr. Stone—As one of the members of the committee that got that appropriation I would like just to say what we have seen. Our chairman was along with us, and we failed twice in getting the appropriation, and the stumbling block was when a man gets up and says "personal liberty" in that committee; "You are infringing on my personal liberty." We heard that, and it was when we came to that clause where it

gives us the authority to destroy the man's bees if they have foul brood, that made us give up all hope of getting anything. We tried to get that law through with those conditions—to give the inspector all protection that the foul brood law could give him. The last bill with those authorities left out went through, but every man was for it and I suppose the influence brought to bear was what brought it through. The senator was pleased because he was flooded with letters he got. Go on Mr. France.

Mr. France—I called there and what few bees he had were infected. I said shall I treat these? He was busy picking apples one day and could not attend to it, so he put me off every day till I said my time is worth too much, and told him to build a fire under the kettle; we will cure them right now. But his time was worth too much, and in the other case the man's bees were in a dying condition. He said, "I will burn them up." So destroy in cases like that, but generally it is not necessary. If it comes to the last I show them my authority; and that goes a long way with some people. If the State Veterinarian is on the farm and he finds a horse that is diseased, will he allow you to keep that horse? Can the man keep it as long as he wants it? I think the State Veterinarian would take care of it. It is only the eradication of the disease that you are after. If I have a diseased horse or a cholera hog, the State places an appraised valuation and that animal is destroyed to eradicate the disease.

Mr. Stone—I would like to ask Mr. France another question. When you have the authority given to you to inspect these apiaries, then would it not be sufficient to have a law that would compel them to eradicate the disease and not destroy the property? Then you would not be destroying property and no question of personal rights could come up. That is just what you need in your law.

Mr. Smith—In my trips as inspector for this State I visited the past season, in 32 counties, that is about 1-3 of the State. I traveled over 2,000 miles, inspected something over 300 colonies of bees, and I will say that I found only one person who objected to having his bees inspected. But, on the other hand, I find the people willing and anxious to have them inspected. In a great many places I had correspondence with the bee-keepers that have foul brood, and they would notify their neighbors that the inspector was coming, and they are all anxious to know what they shall do in regard to treatment. I believe that by sending out the proper educational printed matter as to treatment, we would have a great deal of help. They have read the bee-papers of late years and they all say so much about foul brood that they are anxious to escape it if possible, and get rid of it if they have it.

Mr. Stone—Did you not find the trouble with the people who had just a few colonies?

Mr. Smith—That is the only trouble. About 18 years ago I had 102 colonies of bees in fine condition. Of course

I read the bee-papers. I thought I would get good queens and improve my stock, so I sent and got 6 queens. They were in queen-cages accompanied with $\frac{1}{2}$ dozen bees, and enough honey to carry them through their journey. I inserted queen, bees, cage and all on the comb, and let the bees cut their way out, and before I knew it 82 of my colonies were infected with foul brood. I found my bees were weak, and I began to investigate, and on investigation found it was foul brood. Then the next season a neighbor of mine concluded he would go into the bee-business. He went down to this party and got 20 nuclei. I destroyed my bees, only having 7 colonies left. The next fall I built everything up even from the hives, then sent to this man and got 20 nuclei. He sent for me to come over and see his bees; they were not doing well, and I was enlightened then. We went through and found every colony infected with foul brood. We burnt them all up, and I supposed that they had been infected by some bees in the locality. Well, there were only a few bees in that locality that year. The following year I went to that man again and got 60 more with the same result. There was a gentleman moved in from a farm near who sold some bees. I bought them all, black bees. I wrote to this party for queens, got 4, and successfully introduced them, yet in two months my bees were infected with foul brood. Now, then, there was a good indication that they were infected before they came here. It was three years before we got rid of that trouble in that neighborhood. I built up again, and have had no foul brood since, but everyone in Sangamon county is willing to do all possible to keep out foul brood.

Mr. Becker—Does foul brood exist all over the State of Illinois? If not, in what part of the State, and in what counties, does it exist?

Mr. Smith—Well, it exists in the river country all the way, as I understand, from Cairo up to Galena; up the Fox River through the northern part of the State, and down the Illinois river is where we find the most of it. I found some in Kankakee county. I believe the best way to do is to educate the people by sending printed matter to them and get them interested.

Mr. Stone—When they know we have a foul brood inspector they will be more liable to try to get rid of the foul brood.

Mr. Smith—They mail me a piece of their brood-comb, and I tell them if it is foul brood. I think that we can do lots of work that way. Now, when we send out our report to Mr. York about it; I think it does as much good as the foul-brood inspector could do. We have now 119 members, and if all members will send in the name of every bee-keeper in their vicinity, we will mail them some more of this printed matter, an outline on how to treat the bees, as Mr. France illustrated; I think we could prevent the disease. The bee-keepers that are bee-keepers are, as a rule, practical, and are getting more so every year, and those little fellows are

gradually quitting; but I think it was in 1881 we had that great honey-flow in this State. I had 40 colonies that year and my bees stored 500 pounds of honey to a colony. Everyone kept bees the next year, not getting such results, but the practical men kept right at it; the little fellows quit. If I go to a sale in the country, and there are any bees, I buy them up. They sell cheap at sales in February or March. I buy them and transfer them, render up the wax, and if practical men would follow that we would soon get rid of little bee-keepers. If the people who want to keep bees will take hold of this matter and help us, and by getting the people to work, I believe it will be better than to have a half-dozen inspectors.

Mr. Becker—This is quite a bee-country. I believe there are 5,000 colonies of bees between here and up and down the river both sides in Mason and Cass counties. I went there last summer and met a man who takes a bee-paper, and had me come in to see him. He asked right away about this foul brood, what it was, and I had to explain it to him. I met at least a dozen who had bees, and of course they all knew I kept bees and had exhibits at the Fair every year, and that I sometimes bought honey, and it seemed that everyone there was interested in foul brood. It is a good honey country, and has no foul brood. I said their bees were all right, and it seemed as if everyone in the country asked the same question. People have read about it. I believe that the money we have spent on these reports and pamphlets on foul brood has done as much good as the inspectors themselves, because it is educating the people. The people keeping bees don't want any foul brood, and if they have honey-bees they don't want them to die from it. One doctor there, an old friend of mine, well up in the bee-business, has about 50 colonies and everything necessary to take care of them. I wanted to buy some of his honey. I could give him a good price a pound for it, but I could not use it at all. It was in such a shape; it was unfilled sections, so it was nothing but chunk honey, and I don't think in one case there was a straight section.

Mr. York—According to the last census there are many bee-keepers in this State, and while these pamphlets are a good thing, unless you can get the names of the bee-keepers you can't reach them, and so far as I know we have only about 1,500 names of bee-keepers in this State. I don't doubt that the printed reports are good things. About the new law. I believe that if the things go right, we can have as good a law as Wisconsin has. I realize it will take some work to do it. I have not forgotten what we did two years ago to get the law we have now. I remember the Chicago-Northwestern Association had subscribed \$100 to pay the expense. That was spent in endeavoring to get the law. I repeat, I believe that if things go right we can have as good a law as Wisconsin has. I know if we get this law it will cost some money, we cannot get it for nothing. We are in touch in Chicago with members of the Legislature,

many live in Chicago or near there. Mr. Moore and I are personally acquainted with some of those elected this year, and I don't know whether it is so or not but we have felt that you would not have gotten the other law had it not been for us up there. Mr. Moore spent a great deal of time and used his influence in every way, and he knows a great many members of the Legislature. I am satisfied that we can get \$5,000 if we go for it.



Secretary JAS. A. STONE.

Mr. Bowen—I want to understand whether this money is appropriated for the suppression of foul brood. Is it not a benefit for Dr. Miller? Why is it not a benefit for the bee-keepers of Northern Illinois as well as Central Illinois? If we want an appropriation from the State Legislature we have to form a united front, and we have to show how many bee-keepers there are in the State. We have had an inspector here, and we ought to be able to tell in the report that we are bringing before the Legislature how many bees were infected with this disease, and how many apiaries were visited,

so that we can go to the Legislature and show them that there is a cause for us to ask for this money for the Illinois bee-keepers. Other States are trying the same thing, and I say again that whatever we do we must bring a united front if we get the appropriation. Our Chairman and Inspector spoke of one case where a party had a few colonies of bees that they objected to their being inspected, and the party moved to South Dakota. Now I am not in favor of giving to my neighbor a thing I don't want myself. If we had proper laws, that man's bees would have been inspected, and if they had the disease they would have been destroyed, and not gone over into South Dakota to spread the disease. What is good for Wisconsin is good for Illinois, and what is good for Illinois is good for South Dakota, and if we are going to work for the benefit of the bee-keepers we must be united, not in Illinois alone nor a part of Illinois but all over the whole country. Most of us are members of the National Association, and we must feel interested in all the countries. I know nothing about foul brood, and I hope I may not have it among my bees, but I will try to keep other men from getting it in their bees. I am personally acquainted with some having foul brood, and I am heartily in favor of any law that will stamp it out. I should feel badly if I got it in my bees or in my neighbor's.

Mr. York—If we can get an appropriation we can have more inspectors. I think if this Bill is presented right that we can get it. I don't see why we should not get as good a law as Wisconsin has. We ought to try to get in touch with the bee-keepers that don't take the bee-papers. If we can get the bee-keepers in the different parts of the State to send in the names of the bee-keepers in their locality a great deal of good will be accomplished. I think Mr. Moore has suggested that some of the money in the treasury should be taken to help get the new law. It seems to me that the Association ought to pay it, and not ask individual members to pay it. There are a great many people that don't help it on at all. They want us to pay for it and do the work too. We ought to get a larger appropriation.

Mr. Black—If there is an indication that any of this money is going to be used for that it will prevent us from getting anything. It will kill the whole thing, and I find that nothing kills a thing quicker than to get our hands into the State's pockets. If we want a law we must be willing to put our hands into our own pockets. I have spent several dollars in trying to get this law.

Mr. Primm—It seems to me that as we have more than one Association in this State, we ought so to arrange matters that those members of one are also members of the other, so far as the law is concerned, and so far as effectual work is concerned. Membership in one organization should mean membership in all, so that we can work together in such a way as best to effect legislation, and for all concerned it would be a wise move. I don't know just how it could be formulated, but I think it would be wise.

Mr. Coppin—It would pay us to stamp the disease out if it took all the money in the treasury.

Mr. Smith—We have till next July to work on it.

Mr. Coppin—After working till next July there will be little money in the treasury.

Mr. Stone—We ought to ask for a larger appropriation; I don't believe there was a single session at the State House during the Legislature that I attended, but what I was asked by the members trying to get the Bill through if the Bill cut in two would not be enough. We can not get along with less than \$1,000. After the bill went through we expected the Governor would sign it by cutting it in two, as he did so many others. They asked if the Editor of the American Bee Journal was interested in getting that Bill through and we said "Yes." We ought to have a committee on legislation, and have it both in the Chicago-Northwestern and in the State Associations. We don't care how much the Chicago-Northwestern gets; we believe they ought to have their proportion, but we have to advance cautiously whenever we find the money is not being spent rightly. If the Legislature finds the money is not being spent wisely they will quit giving it to us.

Mr. Bowen—I am not supposed to know much about this convention, but I would like to know what Mr. York means by the Chicago-Northwestern Association and what territory it includes.

Mr. York —It includes Illinois and all the States around it.

Mr. Smith—In the last meeting of the Chicago-Northwestern held in Chicago, there were members present from seven States.

Mr. Bowen—Now if your money you speak of getting from the State Legislature is controlled in part by the Chicago-Northwestern, does that not put it in the hands of other States to dictate how much should be used if that society is composed of members from other States? I cannot see where the benefit would be in dividing it up.

Dr. Miller—The idea in Mr. York's mind is that the Chicago-Northwestern Association has done a lot of work, and spent quite a good deal of money in order to get this Bill passed—not that they ought to be paid for it, but that they have done this, and feel that they ought to be recognized on this ground aside from their bees.

Mr. Bowen—I am getting the run of it now. I want to state that your law provides for two annual meetings, and the expenses of meeting, but I don't know of a single penny being paid out for any expenses of the meeting. Now as to foul brood, if Northern Illinois has foul brood they are getting more benefit out of the law than we are. We have not got it in Central Illinois, but it is along the river counties.

Dr. Miller—The inspector works in the Northern part of the State. You don't have the disease in this part of the country, and you are the ones that are getting the benefit of those in the Northern part of the State. The idea is not

that the Northern part alone is getting the benefit. If the Legislature does not object to the horticultural society, I don't know why it should object to it on the part of the State Bee-Keepers' Association.

Mr. York—It seems to me that a grant could be made to the Chicago-Northwestern Association, and you will notice that 2-3 of the report is from the Chicago-Northwestern this year, but they paid nothing for the report of that meeting. The State Bee-Keepers' Association is confined to operations within the State. The time is coming, and the sooner it comes the better, when we shall appeal to Congress through the National Bee-Keepers' Association, but so long as we work on the State Legislature for an appropriation for the work of the bee-keepers, we must give the appropriation to people operating inside and not outside of the State. The Chicago-Northwestern might be invited to suggest the names of persons who are members of the Legislature who shall be foul-brood inspectors, but if we are to secure an appropriation that appropriation must be confined strictly within the State of Illinois, not outside, and if we want to affect the Legislature we must keep that in mind.

Dr. Miller—I want our State Association to be successful. I would rather see the State society successful than the Chicago-Northwestern, but I don't believe the State Association will be hurt by anything done by the Chicago-Northwestern.

A Member—It was resolved not to hold the meeting in Chicago. Is there anything we can do toward getting the Legislature to grant the appropriation? It certainly is for the good of this State? The Chicago-Northwestern has been one of the great supporters in getting the law. We must have a committee composed of members from that Association and this, and not divide the funds necessary to accomplish the object. Take the money to use for the good of the State. I think there were 1,000 booklets printed last year to educate the bee-keepers. I could not get the names of the bee-keepers so I went to the members that I knew, and asked them to send me the names of all the bee-keepers in their part of the country, then when I got the list of names, I sent these booklets to them and said there is to be a bee-keepers' convention at Springfield, and you are invited to come. I sent out booklets on foul brood and some said, "I have it among my bees but I didn't know it before."

Mr. Stone—I move we adjourn.

Mr. Bowen—Before we adjourn I would like to have the President and Secretary get together and make their report.

Mr. Smith—I saw a colony in St. Louis that was infected from this State. It was one of the strongest colonies in the apiary in the spring; now they have contracted the disease. I will appoint a committee for the purpose of drawing tomorrow morning's resolutions asking for and trying to secure the co-operation of the bee-keepers throughout the State. Mr. Primm, Mr. York, and Dr. Miller will be appointed on

that committee. If you prefer five, I will add two more. Any further business? If not we will adjourn.

SECOND DAY—MORNING SESSION.

Mr. Smith, in the chair, asked the Secretary as to the next thing on the program.

Mr. Stone—We wrote to eight persons for papers, but we only have two. Mr. Crim was one written to, and we never got any response. Mr. Poindexter has a paper. We have heard from Mr. Moore and Mr. Dadant, and the rest did not answer, so that is all we have in the way of papers. Mr. Black has a talk.

Mr. Smith—Is there anything to dispose of, if not we will call on Mr. Black for a speech.

Mr. Stone—A great many things ought to come up.

Mr. Primm—We will have a report of the committee as soon as I can copy it.

Mr. Stone—We ought to do something and have it understood as to the publishing of this report; if it needs a motion, I would like to make it. I will leave it to the meeting and let someone else make a motion. We ought to make arrangements, and I favor their being made with Mr. York, the editor of the American Bee Journal, because he can render us far more assistance than any other we can get to publish our report. This past year when we were in doubt about the "modus operandi," through a correspondence with Mr. York we decided on getting out a letter and it was right in the busy part of the year with me, and I told Mr. York what we wanted, and asked him if he would write the letter. He wrote the letter and sent it to me for further suggestions, and we sent it out. You all know what that was, and no one but Mr. York could have helped us out as he did. We get the advantage of all that, if we have him publish our report, and I am in favor of having a letter like that sent out again. Now, if it needs any discussion and any motion to bring it before the house, it might be well to have a committee appointed. What do you think about that, Dr. Miller?

Dr. Miller—The Executive Committee will attend to that.

Mr. Stone—Will it be best to leave the publishing of the report to the Executive Committee?

Mr. Smith—Is the meeting willing? I don't know that it is necessary at all, but I think it best to put the motion. You have heard the motion: All in favor say, "Aye"; contrary, "No". It is unanimous. It will be left to the Executive Committee.

Mr. Stone—There is another thing I would like to have decided before we go any further. We have in the last year taken in five members who asked also for the American Bee Journal, in connection with their membership in the Association, and I learn from the proper authorities that it is the understanding that when this Association gets membership in the National it means all the members. It does not

leave any to go alone into the American Bee Journal family. Our foul brood inspector will have to be instructed as to what the rules are, as it was through that source that the American Bee Journal was ordered.

Mr. Smith—We ought to decide that. We can not give membership in the Association and the Bee Journal at the same time.

Mr. Stone—We did it with five members last year, and this year we have started with two. I will make up the difference if need be, with the understanding that no more subscriptions are given.

Mr. Becker—I don't see how we can compel any one to go into the National Association if he doesn't want to. I don't see how you can compel them to go into it. If any member wants to become a member and doesn't want to go into the National, I don't see how you can make him.

Mr. Stone—It is his privilege.

Mr. Becker—And it is his privilege to take the Bee Journal, and it is his privilege to be able to join and become a member of the Association.

Dr. Miller—This privilege was given to all societies in the country to become members of the National Association, providing the local Association paid half the amount—50 cents per member. You can't go into the National Association for 50 cents without going into it through the State Association, or some other, as the National fee is \$1.00. I doubt whether any individual would object to going into it. I don't need to go into the National if I don't want to. But I doubt if any one will object to going into it when it costs but \$1.00 for both the State and the National.

Mr. York—A part of them go in but they have to pay \$1.00 to go in. So, to get the advantage of the 50 cents membership fee, the whole association has to go in. The regular dues, as Dr. Miller said, are \$1.00. A provision was made in the National constitution for the purpose of increasing the membership of the National, and also to help the local associations that they might increase their membership. I never heard of any Association that refused to go in, and they vote whether they are to join in a body. Those of the members that want to join can send in their \$1.00 to the National. But it will cost them \$1.00, instead of 50 cents by going through the State Association.

Mr. Smith—It would be a good idea for the Secretary to write to those two parties telling them that they pay \$1.00 and get membership in the State and National both, but cannot by present arrangements have the American Bee Journal.

Mr. Primm—Does 50 cents admit the member into this association, or \$1.00?

Mr. Smith—A dollar. They pay their \$1.00 and we credit them for membership in the State Association and send 50 cents to the General Manager of the National, which gives them also membership one year in National.

Mr. Stone—The membership is \$1.00, and if this Association votes to join the National in a body they give us

membership for 50 cents each per member. They can't object to accepting that.

Mr. Primm—We can take their \$1.00 and send 50 cents of it on to the other body.

Dr. Miller—I move that this society as a body go into the National Association, and accept their offer to pay into its treasury 50 cents per member.

Mr. Smith—You have heard the motion. All in favor say, "Aye;" contrary, "No." Motion prevailed.

HOW CAN WE TAKE POLLEN OUT OF SECTION HONEY?

Dr. Miller—I don't know.

Mr. Smith—I have found it successful by queen-excluders; they won't carry pollen where the queen can't go.

Mr. Poindexter—There is one case in which pollen is not carried into the sections—where they have drone-comb mixed with it.

Mr. President—My experience is that they have both brood and pollen in the sections.

Mr. Smith—Mr. Poindexter is right; it is a rare thing to see pollen in drone-cells if you have drone-comb.

Dr. Miller—The queen will get into the sections unless the excluder keeps her out. If you have drone comb in your sections and the queen goes up here, the queen will lay in the drone-comb and the bees will store pollen in the comb close by. If you allow me to say so, it is a rare thing to have pollen in section. I don't have an excluder, but I have the sections filled entirely with foundation, and that is the important part, because if the sections are only partly filled it will be drone-comb in the part left, and that encourages the queen coming up. Fill your sections with foundation and you will have no more pollen.

Mr. Poindexter—My experience is that the foundation which I am using will certainly keep the brood out, but it doesn't keep the pollen out, not by any means; it is still there.

Dr. Miller—May I ask what is the depth of your brood-frames?

Mr. Poindexter—I have had shallow brood-frames but I have pollen carried up. I don't know any especial reason for it. It may be there is a surplus of pollen in my neighborhood. What troubles me is the getting of pollen in section honey.

Mr. Smith—Do you use queen-excluders?

Mr. Poindexter—No, sir.

Mr. Smith—You try that and you will have no trouble.

A Member—I use queen-excluders in two colonies at present and it is just the same.

Dr. Miller—The point is this, he says they store honey over the excluder. I think the reason the excluder keeps it out is because the queen doesn't go up there, and there is no laying in the surplus.

Mr. Smith—Is it not a fact that the workers will build drone-comb in the surplus where the queen can't get?

Dr. Miller—I don't know that it is possible.

Mr. Smith—I have had that experience.

BEES DRAWING OUT COMB.

"Is it a fact that bees draw out comb?"

Dr. Miller—I should say yes as far as I know. I think the bees do.

Mr. Stone—I asked that question. Do they draw it down? I heard a man say that he put in the brood-frames a strip



Treasurer CHAS. BECKER.

of foundation one inch wide; they drew it down two inches wide. I claim that is an impossibility; how can they draw it out? Will they draw it down and make drone-cells out of it? They could not draw it down without making the cells larger and all out of shape, or else taking off bits of comb and building it on at the bottom, which I doubt, as they begin first by widening at the top of the comb. I read about bees drawing out comb but I never can believe it.

Dr. Miller—The common understanding is the fact that

bees draw out comb. Sure they do. They draw out the cells. They take what is above and take it farther down bit by bit.

Mr. Primm—I don't know that I catch your idea yet. The question implies, do the bees fill the comb if you put in foundation? Do they affect that foundation to any extent in order that they might enlarge?

Dr. Miller—I see your point. The point Mr. Primm makes is that they don't draw it out. No, sir, emphatically they do draw it out. The yellow foundation will be drawn out. I know they draw out the foundation.

Mr. Primm—I think when you have a foundation one year the next year when you eat the honey you will find where the foundation is, there is thick wax.

Dr. Miller—Because that foundation is allowed to stand for a year and it is hard.

Mr. Stone—Right there is a stumbling block for me. I have had beeswax lying out for the bees to lick the honey off, and they do not carry off the wax. How do they get the comb drawn out, if they cannot carry off my wax?

Mr. Coppin—The bees can dig wax and carry it away; they have done it at my place this past summer. I put out some honey that had pollen in it, for the bees to clean out. It could be drawn down like Mr. Stone had in his question. It would not be a worker-bee cell if drawn down, it would be all out of shape. They use the wax in the foundation below. It was near the bottom of the section.

Dr. Miller—With regard to bees taking wax from any place and then using that wax to build out comb, it is possible that it is done. They do take bits of wax scattered around and use it as propolis. I could not say positively they never use it to build comb, but I don't see how it is possible.

Mr. Stone—I believe that is one question we can't solve. I think if the foundation is colored further down than where it was put in, that there is a possibility the darker colored wax colors that which is attached to it. An old hen made a nest, and laid every day in a barrel where I had cleaned old brood-frames. After being a few days from home I went to the barrel to get the eggs, and found those eggs were colored. If propolis or beeswax can color egg-shells can it not color the wax attached to it? And may not this be the secret of wax-coloring?

Mr. Becker—Is it not a fact that after a honey-flow you never see bees swarming around an old hive that is thrown away looking for beeswax on old frames? I think Benton in his book issued by the Government, says he thinks that bees don't produce comb, and we know they don't unless a certain temperature is in the hive, and this yellow wax in the hive is the production that comes after a honey-flow, and there is not sufficient white in it to give it the same color; it is always a darker color. I never see bees around an old frame.

Mr. Black—My experience is different from Mr. Becker's. During the great honey-flow we had noticed that the bees

were more eager to get the bits of wax that were around. I had thought that they would not want much except the screenings of honey, but during last season I noticed particularly they would not touch the honey at all, but if there was a bit of wax on the ground they would gather it.

Mr. Primm—I have the impression from my experience, though rather short, that the expression which we use with reference to comb is a misnomer. The bees don't draw it out. They use the wax to build comb and probably that accounts for their acting so, but I doubt if they ever really draw out the comb from the foundation. If they did they would enlarge the cells to any size they chose, and we would have no benefit in putting in the foundation so far as prevention of drone-comb, or anything like that.

Mr. Bowen—I noticed this summer that the bees were getting the wax on their legs so they could hardly fly with it. I don't know what they do with it. I didn't know exactly whether they used it for propolis or not. It is possible that is what they use it for. I wondered when I saw them getting it what they would do with it. I am glad the question came up to-day as to whether it was used for building comb or for propolis. In regard to building, when they have foundation they have a base for cells. I think the tendency would be clear, that a cell the proper size would be made, even larger than drone-cells.

Dr. Miller—If they can draw out the foundation a little way they can draw it out to the full depth of the cell. If you put in a piece of foundation in the working season when the bees are fully at work, within 12 hours you will find that foundation double what it was. You will find that shallow cell-wall within 12 hours will be 10 or 12 times as large. If you watch them you will say they draw it out of those shallow cells.

Mr. Stone—I would like to say that Mr. Poindexter is here, and has a paper, and when it is the pleasure of the meeting we will have him read it, Mr. Black was asked to give a talk and we will look to him for that.

COMMITTEE ON RESOLUTIONS.

The following resolutions were then presented, and all were adopted:

WHEREAS, We believe the bee-keeping industry of this State would be greatly promoted by a closer union of all bee-keepers; and

WHEREAS, The Illinois State Bee-Keepers' Association is the only incorporated body within the State, representing the 35,000 persons engaged in said industry; therefore,

Resolved, First, that we, the Illinois State Bee-Keepers' Association, in annual convention assembled, hereby invite the coöperation of all bee-keepers, and bee-keepers' associations in Illinois, in everything that will promote the common interest.

Resolved, Second, that any local bee-keepers' association in Illinois may become affiliated with this Association on the payment of twenty-five cents per member, and its members thereby shall become members of this Association. This Association will gladly incorporate into its published annual report the reports of all affiliated associations, if furnished by the secretaries of such associations.

Resolved, Third, that it is to the interest of every bee-keeper in the State to assist the State Association in securing such legislation as will enable us to stamp out the foul-brood evil, and also prevent the placing on the market of adulterated honey.

J. W. PRIMM.
C. C. MILLER.
GEORGE W. YORK.
Committee.

In accordance with the resolution laid over from the last annual meeting (see Third Annual Report, p. 20) it was voted to amend Art. III. of the Constitution, Sec. 1, by the addition of the following: "And any affiliating association as a body may become members on the payment of an aggregate fee of twenty-five cents per member."

Resolved, That our committee on legislation be requested to use every reasonable means to have bees listed as assessable property, and be a part of the assessor's enumeration on the assessor's list. Also, that the law be so amended that the Foul Brood Inspector may have a legal right to force the owner of diseased bees to treat, or have treated, such foul brood, or other disease. Also, that every effort to secure an increase of appropriation from our Legislature for the furtherance of bee-keepers' interests be made.

WHEREAS, Death has taken from our number P. J. England, the first president of the Illinois State Bee-Keepers' Association, therefore be it

Resolved, That we hereby record our sincere appreciation of the services rendered by our departed brother, and our sympathy with his bereaved family in their sad affliction.

Resolved, That a copy of these resolutions be forwarded by the Secretary to the bereaved family.

J. W. PRIMM.
C. C. MILLER.
GEORGE W. YORK.

We, the undersigned committee appointed to audit the accounts of the Treasurer, Chas. Becker, find the same to be correct.

J. W. BOWEN.
S. N. BLACK.
S. T. CRIM.

Mr. Black—I don't know that I listened carefully enough to understand the resolution. Does that mean that they should affiliate as a body or as an individual?

Mr. Primm—As a body.

Mr. Black—Then to make that sure they should report the whole number of their members with 50 cents to each one of them.

Mr. France—You have several local bee-keepers' associations in this State; now if these resolutions are to include those, is it not the same as to affiliate here? I don't know whether they have that understanding or not; their report is to the contrary, else what disposition are you going to make of those people if they don't understand that matter?

Mr. York—I think it is the idea of the committee that all associations should be notified of this act so they can take a vote on it. Notify the secretaries of the other associations, and have them send in reports.

Dr. Miller—If you go to the Legislature they will say, How many are there of you? If your Association has more members it carries a great weight. I doubt whether the other societies will do any harm. It does the same as the National does. They come into the National that way, and it is a great help to the National. It will in the same way help the State Association. As Mr. Black says, they don't have to come in if they don't want to. The whole thing is this: That it will increase the membership of this Association, and be a help to us. In union there is strength.

Mr. Stone—It costs 5 cents to send out this report. If we receive 25 cents for membership from each member, will that include one of these reports?

Dr. Miller—There is that much more of a margin than you would have without it, no matter whether it is small or large.

Mr. Smith—Next year send out letters and get more fees.

Mr. Stone—Our treasurer has mentioned this will all go out of the appropriation anyway, it won't affect the State Treasury, as Dr. Miller says.

Mr. York—It seems to me it would be a good idea to have another paragraph in it. There are more local associations than to take in the bee-keepers in those parts of the state at the 25 cent rate. They have to pay their \$1.00 to join the State Association. I favor having them pay their \$1.00.

Mr. Primm—The bee-keepers are taken in, not as individual members but as an association. I think as individual members they would be conflicting, but in a body it seems to me they would not be.

Mr. Bowen—I don't see how you can make one thing of one and one of another. If they become members in a body and you wish the adoption of this resolution you must add another clause or another section to the constitution first, and then take in that section.

Dr. Miller—In order to save time, I wish Mr. Bowen would suggest the amendment he thinks desirable.

Mr. Stone—We are not doing things in accordance with

the constitution, and I don't see what difference it would make.

Mr. Bowen—How would you make the membership in one way with one class, and another way with another class? Have your committee bring that up in the form of a resolution.

Mr. Stone—Can't do that, without a two-thirds vote of the members present.

Mr. York—The constitution says when any person joins he must pay \$1.00, but a whole body can join for 50 cents each.

Mr. Bowen—No reason why because the National makes a mistake the Illinois Association must make a mistake.

Mr. Stone—These laws were adopted for this Association. Now then, if this meeting so elects, it can do according to that resolution for a year. We don't want to put something in that constitution we will have to follow always. It is only for this year that we want to follow it. This meeting is in the hands of the members.

Mr. Black—That question came up. If they gain the appropriation from the secretary of the National it would not come from the individual, and the money came from the secretary or treasurer to this body and it would not conflict in the least. It seems to me that to make it sure, we might have an amendment that any association joining this body, as a body, may be received on the payment of any sum which this body shall name. I would suggest that we add this as another clause to the constitution.

Mr. Becker—Unfortunately we are not in such a condition that we can add an amendment to the constitution at the present time. It may be amended at any annual meeting after 30 days' notice is given to members of the Association.

Mr. Stone—The by-laws may be amended by a two-thirds vote of the members at the annual meeting.

Mr. Becker—Any person may become a member upon the annual payment of \$1.00.

Mr. Stone—I stand corrected; I was looking at the wrong place. I see it is in the constitution instead of the by-laws.

Dr. Miller—I think that it was taken into consideration in the National that when a society came in as a body it was a different thing, and they could make different arrangements; and yet to satisfy Mr. Bowen, I think it would be better to change the constitution than to take up so much time with these things and interfere with the bee-talk. Do anything to stop wasting time.

Mr. Black—I move that all this subject be laid on the table.

Mr. Smith—The motion is that we lay this question on the table till the next annual meeting, when we shall take steps to change the constitution. All favoring, stand. Contrary.

The motion is lost to lay it on the table.

Mr. Stone—I move the adoption of the resolution.

Mr. Black—It is against our interest to do what most people admit is doubtful, and as I think a wrong move.

Mr. Becker—We want the organization to proceed with other business; our membership is small, and this would give us a larger body in our organization, and when we come before the Legislature what can we tell them? I would like to see every county in the State organized, and find how many bee-keepers there are in each county, how much honey is produced, in order that we can come before the Legislature and show them the interest there is in the State of Illinois for bee-keepers. If we don't vote this motion down we will be losers. We can write to these parties to help us. Now we have nothing but the Illinois State Association. I think they are worth more than \$1.00.

Mr. Bowen—Could we not have the constitution so arranged that we can take members as honorary in order to raise the membership. I move to strike out the 25 cents, and that members of the Association shall be accepted as honorary members.

Mr. Smith—There is a motion now before the house, and that motion is seconded. Mr. Black moved to lay the motion on the table, your motion is now out of order unless you move to reconsider it.

Mr. Bowen—This motion is subject to amendment. I move now to amend it.

Mr. Smith—I misunderstood you.

Dr. Miller—I am an honorary member, but I don't think it would be fair to take in members for nothing. Our members pay their \$1.00. Now you are going to say, "Come on for nothing." While a person may come in at a less amount, I don't think we are conflicting with the constitution, it is a question whether the National has done anything wrong. Don't shut ourselves out from the advantage it will give us. It looks as if the adoption of this report will more than double the membership of this society, and the doubling of that membership means a great deal to us. There is nothing in the constitution that is disturbed by this motion. You will get into trouble by admitting as honorary members. It is not fair to the members present. We ought to be willing to strain to increase our membership for the great advantage it will bring to us.

Mr. Black—They will not become members until we have notified the body that they have accepted that, or they become honorary members on their acceptance or notice, or they become members on the payment of 25 cents.

Mr. Bowen—Becoming honorary members doesn't mean active members, but honorary members to act in harmony with the State Association. Their interests and ours are one, and they want to sign their names as members of the Association and they ought to do so. I would rather see a good organization with barely an existence in financial matters than to have a large fee and only a small organization. If it is right to have a few honorary members, why not many?

Dr. Miller—If we have too many honorary members when we go before the Legislature and tell how many members we have, they say how many of them are honorary members? Don't you see that it won't bear the same with the Legislature that it would otherwise if they came in with the payment of so much money.

Mr. Stone—The 25 cents will come out of the treasury of their society, not out of their pockets. I don't believe we would get a man as honorary member that we would not get if he paid his 25 cents. It is out of the association's pocket, and the association is formed by the individual; if they vote for them to come to this Association for 25 cents they are not voting out of their own pockets. It will make a difference between their coming in as active and honorary members. The State will say, What! are you sending these reports to these people that don't give you anything for it? I believe in things paying for themselves.

Mr. York—Are you going to make honorary members out of the whole State of Illinois?

Mr. Stone—One year ago this question was brought up, and on motion of Mr. Black it was laid over for one year, so that any change in the constitution would now be in order.

Mr. Smith—Are you ready for the adoption of the resolution? All in favor signify by saying, "Aye"; contrary, "No." Prevalled.

Mr. Stone—In view of the circumstances that brought France here, and for the talk he has given this Association, I move that he be elected an honorary member of this Association.

Mr. Smith—You have heard the motion. All in favor signify by saying, Aye; contrary, No. Mr. France is a member of this Association.

Dr. Miller—I see more sense in making one outside of the State an honorary member than one inside the State.

Mr. Smith—Do you want to pay a quarter, Doctor?

Mr. Stone—I would suggest that resolutions be drawn on the death of the first president this Association ever had, P. J. England, of Fancy Prairie, who died January 25th.

Mr. Stone—Moved that the Committee on Resolutions be retained to do it. Carried.

GUARDING AGAINST FOUL BROOD.

"Is there anything to guard against foul brood or to prevent the disease?"

Dr. Miller—I cannot see that the disease can be prevented only by preventing infection. Let Mr. France answer this question, Is there any way to guard against foul brood?

Mr. France—It is important to have a foul brood law; you need that, and an inspector's authority.

Dr. Miller—Is there anything to do to keep bees from having foul brood?

Mr. France—I find many bee-keepers whose bees don't have the disease, saying, "Well, I don't need to be posted;

my bees don't have the disease." And they don't try to keep posted on it.

Dr. Miller—I have no foul brood among my bees; I don't care about it. When it gets into my apiaries I will study about it; it is a waste of space to me.

Mr. France—You have a good residence; you will wait until your house gets a fire, and then insure it.

Mr. Bowen—We don't have foul brood in our neighborhood. It doesn't seem to me that question was properly understood. As I understood it, suppose one of our neighbors has the disease, is there a way to keep our bees from getting it? Is there any prevention?

Mr. France—Keep a constant watch on your bees to keep them from being infected. I don't think that a practical question.

Mr. Smith—If a case of small-pox got among us we would have to fumigate, but you can't do that with bees.

Mr. Coppin—In the spring when they find they have a lot of bees that have the disease, a good many of them don't know about foul brood; if they would examine those bees that died in the spring, they would find they had the disease, and if they would examine the combs they would find they had foul brood, and they could keep the rest of the bees from getting it. Examine the combs when you find bees dead, and you will often find foul brood of the worst kind. I told them to send it to the inspector, which they did; it was a bad disease because bees don't die leaving a lot of combs full unless they have the disease. It is easy to tell when the bees are found dead in the spring if they have foul brood. It could be prevented I think.

KEEPING BROOD OUT OF SECTIONS.

"What is the best way to keep brood out of sections?"

Dr. Miller—Use a queen-excluder; you will not have any brood there. I can prevent it to so great an extent without that, that I don't want to be to the expense of using excluders.

Mr. Smith—Tell your secret.

Dr. Miller—It is no secret. Some having brood in their sections do the same as I do, except that they don't have their sections filled with foundation when the honey-flow starts, and no brood-comb in the brood-chamber. They will fill out the comb in the sections. Some times I have known the bees to leave a piece of brood-comb for use in the section-comb entirely empty. Keep your sections filled; that is the secret. Keep the bees from putting drone-comb, and then the queen won't go up to lay.

Mr. Primm—How do you fill your sections with foundation?

Dr. Miller—Fill it so full that there can't be drone-brood in it, so the queen can't get at it.

Mr. Coppin—I find that the Doctor's theory is correct. If you fill it full of foundation the queen will not go there

to lay. That is my experience. Whenever I find brood in sections it is drone-brood, every time. I never find any worker-brood, unless it should be in the same comb where there is drone-brood.

Dr. Miller—I have found some cases where without any drone-comb at all, the queen has gone up and laid in the worker-comb, but it is a very rare thing when that occurs.

Mr. Bowen—You people neglect the early education of your bees.

Dr. Miller—It is a rare thing that they will go up into the sections.

Mr. Smith—Is that very frequent?

Dr. Miller—It is not frequent at all, but it is a rare thing when a queen will go and lay in cells that are filled with foundation. Some have a great deal of trouble with it; the only way to account for it is that their sections are not filled with foundation.

Mr. Bowen—I never allow my bees to go in sections from four to six days after putting bees into the hive; they get the sections above full before they get the frames below, if I do.

Dr. Miller—Mr. Bowen has brought up the question, who will answer it? I wait until the bees get started below before I put the sections on. This is a separate thing, and in case of swarms you will have brood in your sections. It just depends on the season in regard to getting brood in the sections. If there is a swarm, and you use full sheets of foundation in the brood-frames, the bees will use no sections for brood-comb. In those combs nothing but worker-bees will go if you have excluders. If you put sections on the next day it is very seldom the queen will go up. I put sections on the next day after hiving a swarm, and they don't go up with me.

Mr. Poindexter—I was going to ask about queen-excluders; do they store honey in the surplus as well with as without them?

Dr. Miller—I don't know positively.

OUGHT BEES TO BE ASSESSED?

Dr. Miller—The way property is assessed the bees ought to be assessed. I want protection of my property. I want my bees to be protected as well as anything else. I don't see any reason why they should be excluded.

Mr. Stone—I believe we ought to be willing to have our bees assessed. The reason I never have done it is, the assessor says they are not on the roll and are not assessable. I heard Mr. Becker say his bees were assessed. If we go before the Legislature and ask them to pass the law preventing the spreading of foul-brood, I want it to be said that we pay taxes on our bees.

Dr. Miller—How many think bees ought to be assessed? Rise to your feet. Unanimous.

Dr. Miller—I think it is a very important item that you

would have accomplished in making that answer. I know a great many would want their bees assessed. I think we are the gainers in the long run. The tax on bees is not a large one. I am sorry that bees were not on the list last year.

A. J. Miller—What should the valuation be given to the assessor?

Dr. Miller—If I have a horse he is assessed one-fifth of his value. It should be the same with bees. Five colonies of bees would be assessed at \$1.00 each, one-fifth of its real value. I bought bees for \$2.00 last year, and the prices range from that on up. Whatever is the real value of those bees, you ought to have them assessed at one-fifth of same.

Mr. Stone—The valuation on bees ought to be what they are selling for at a public sale, that is \$2.00 a colony.

Mr. Becker—I bought 10 colonies at \$1.65 a piece, and paid \$2.00 and a few cents for hives. I wanted the hives as much as the bees, as they had 50 to 60 pounds of honey. I think bees should be assessed as you have a horse assessed. That is if you have 10 colonies of bees with good hives you should pay not less than \$2.00 valuation on the hives if the bees were not worth a cent.

Mr. Black—In some neighborhoods bees are worth more than in others, and they ought not to be assessed at a fixed valuation anyway. They would be worth more in some places than others.

REGULATING PRICES OF HONEY.

"How can we best regulate the price of pure honey?"

Dr. Miller—You can regulate the price of honey by informing yourself as to what the thing is worth, and be sure to ask all you think ought to be asked for it, seeing that you get a fair price for it. I know some sell their honey for a great deal less than they think it is worth. I know you can help individually in never asking less than what it is worth. The markets want your honey and will give what it is worth.

Mr. Becker—I object to that question, as there is an insinuation in it that we are selling adulterated honey, not pure honey. I hope no one in this convention sells anything but pure honey. So much is said about adulterated honey; I don't think it ought to be discussed. We don't bring anything but pure honey to the market.

Dr. Miller—Do you think any impure honey is sold?

Mr. Becker—Not in Springfield.

Dr. Miller—Mr. Becker has control of the Springfield market.

Mr. Becker—You say I have a monopoly on the Springfield honey-trade. I have not a monopoly; I sell extracted honey in all the Springfield stores. The first package I put in, I say if anyone calls and says they don't like this honey, don't say anything, just tell them to bring it back and I will give them their money back. I never had to take any bottles back but once, and then it was granulated and needed melting. I went to another store and the man had lots of honey

on hand. I said, "You have some granulated honey." The people don't like that kind of honey, so I took it back and sold that man a gross. I sell my honey just that way; that is the way I have got a monopoly on honey in Springfield.

A. J. Miller—I have bees that put black enamel in their section cappings.

Mr. Stone—I am skeptical about bees sealing honey with anything that is not pure beeswax, as it exudes in scales from their bodies.

Mr. Black—On this question of feeding and sealing, I want to give a reason why I don't believe it is done to any extent, or will be. I have fed bees honey and I found it took about six pounds of honey fed to the bees to get one pound in the sections. If you feed sugar they will consume it, and I don't believe it is practical, from experience of my own, to feed sugar or honey, and get it stored in the comb in any way that will be practical to the man that does it. If it don't pay him it will never be done.

A. J. Miller—I find some customers say that the honey in the sections is not good, and they won't have it.

Mr. York—How can we best regulate the price? It seems to me that those who charge a certain price for their honey have the advantage over those who do not. Some who bring honey to market don't know what it is worth. If they knew, they would charge more for their honey. If we hold out we will get more for our honey.

PREVENTING ADULTERATION OF EXTRACTED HONEY.

"What is the best way to prevent adulteration of extracted honey?"

Mr. Smith—Enforce the pure food law.

Mr. Primm—It occurred to me that one thing ought to be done, and that is, have every bee-keeper put his name and address on every package of honey he puts up, and especially the extracted honey, and if that is not in the law I think it ought to be.

Mr. Smith—That is in the law.

Mr. Becker—I want to say this: There are a great many people you find when selling honey, asking, "Is this pure honey?" You tell them, "Yes, it is." "Well, I got some honey and it tasted so and so, it was not pure honey, it was adulterated." That is the conclusion they come to. I know it is pure honey, as we know every flower produces a different flavor of honey. We have samples here. I have 35 samples of honey at home and I always tell them that different flowers produce a different flavor of honey. They like sweet clover honey. Now there is basswood; I know if basswood is a year old it has a queer flavor, and is not liked by some people. They ask what I put in that honey. I tell them what it was. Sweet clover is different in effect from the basswood. My opinion in regard to the feeding of honey, when they say we feed sugar and produce honey, it

is simply some different fall flavor of honey and yet it is all pure honey.

A. J. Miller—The question is, how best to prevent the adulteration of extracted honey. If they knew it was adulterated honey they would prosecute them by law. I would help everyone to prosecute a man who adulterated his honey.

Mr. France—There was a motion made at the National Association in St. Louis to the effect that anyone in doubt as to the honey on their market being pure could send a sample of it to the General Manager of the National, to be analyzed free of charge. That would settle the question.

FRUIT-TREE BLIGHT AND BEES.

"Does the honey-bee cause or spread blight of fruit-trees?"

Mr. France—In short, I will say No! In the extreme western portions of our States the herdsmen have, without any good foundation, drawn conclusion to that effect. I got a paper signed by them asking me that the bees be removed, as they blighted the alfalfa. Because the bee-keeper was getting some of the benefits they were jealous. We could not find that the bee was the cause of their blight. One of the largest pear orchards I know of in your State, the owner said he would not try to keep pears free of blight if he did not have a bee to fertilize the bloom. It is nonsense to talk of bees blighting fruit trees.

Mr. Becker—I move we have the time for 3 o'clock this afternoon for the election of officers. (Carried.)

Mr. Bowen—In order to get good services from the officers, while we don't expect to get any better services than we have had, we expect them to do more, and it is out of the question to ask men to take valuable time for us for nothing. We believe especially the secretary should have some compensation for his work. I believe now with the work for the secretary to do besides attending to his bees, that a compensation of not less than \$25.00 should be granted for his services during the coming year, and I move that the compensation of the Secretary during the coming year should be fixed at \$25.00.

Mr. York—I believe the secretary has done work this last year that he should be paid for. We ought to see that it is paid out of the general fund.

The motion was seconded, put, and carried.

Mr. Bowen—While nothing has been agreed upon for paying officers, we ought to pay them for their time and expense, and I think it is not more than right to pay our present secretary \$20.00 for services during the past year, and I make a motion to that effect.

The motion was seconded, put and carried.

Mr. Becker—I have a little bill here which I have paid from my own pocket. I don't ask compensation, but I paid last year for postage affidavits and stationery, \$1.63.

Mr. Black—You ought to have added that in your bill.

I think we ought not to allow him anything, for not attending to it!

Mr. Smith—All in favor of Mr. Becker's bill being paid signify by saying "Aye." Carried.

Mr. Black—We want to talk bees. Let us have a discussion; the members want it.

Mr. Stone—I suggest we hear Mr. Poindexter, then Mr. Black.

WINTERING BEES.

The subject of wintering bees is one which has perhaps been discussed and written upon as much as any other topic of apiculture, and it is of paramount importance to the bee-keeper to know how to bring his bees through, from the close of one honey harvest to the commencement of another, in good condition, so as to get the full benefit of the yield, whether it be large or small. This is especially an appropriate time to give the matter our consideration so as to refresh our minds for the approaching winter. If we were asked the question as to what was the principal cause of bees not wintering well, and their reduced condition in spring, and later when it occurs, would answer. Cold and the unfavorable condition of the bees to withstand it. With this view, then, what are some of the favorable conditions conducive to successful wintering:

First, on the summer stands, to start with strong colonies. Second, plenty of well-sealed stores of good quality in the same combs on which the bees are clustered. Third, protection against winds. Fourth, a double-walled hive or its equivalent by packing. Fifth, ventilation so as to keep the inside of the hive dry, but no draft through it.

As to hives being shaded or standing in the sun, it depends upon the kind of winter. If warm, shade; if long-continued cold, like the winter of 1872-3, 1877-8, 1881-4-5, we would give the hives the benefit of all the sun's warmth possible.

During some of those extremely cold winters we have saved the bees, as we believe, by covering the hives with snow. In all such cases we ventilated the hives above so as to allow the moisture to escape through the upper chamber.

For outdoor wintering of bees we believe that colonies should be allowed to increase to their full capacity of strength during the summer season. In fact, for other purposes we think the expansive system, or giving the queen and bees full room, is more profitable than the contracting and manipulating plan, for Illinois. While with proper care bees may be wintered with comparative success on their summer stands, but for the 8 or 10-frame single-wall Langstroth hive, a cellar or building so constructed that it will be not only frost-proof but not easily affected by outside temperature, is much more desirable. With part of our bees stored in such a repository we have time and again wintered them with a loss of not more than 3 or 4 per cent.

During the past thirty years, with but two exceptions,

we have had almost perfect success in cellar-wintering, while those colonies wintered on the summer stands have suffered more or less especially during the coldest winters. Our conclusion is that the chief point to be kept in mind is the protection of the bees from cold, from the time it commences in the fall, until warm weather in spring has come to stay.

JAS. POINDEXTER.

Mr. Black—Some of us know the bees gather what we call honey-dew, from the black walnut and black oak, and the honey is dark and the bees that were in the cold any length of time died out rapidly. Now I have wintered bees in the cellar without the loss of a single colony. I wintered out-of-doors with not a very small loss. Even in a single wall I found no trouble in getting to all the hives. It seems to me that they want a reasonable amount of ventilation. Some 35 or 40 years ago I put a swarm of bees there when the old box-hives were in vogue, and it set there and I kept it as an experimental hive. The bees in the center of the hive had spread up by some way till one side had a crack that I could put my finger into, and it was that way for 20 years. The bees were near where my stock was, and one night when the snow was on the ground the cow upset the hive and it laid that way all night. I picked it up the next morning. They came out again in the spring and never failed to give me a swarm. I used them as an experiment till they were over 25 years old, when they died, and I have thought it was not the cold, but continued cold, that kills bees in winter. I wintered one winter in the cellar and lost none; they came out in first-class shape and for 30 or more days the thermometer ran from 20 to 28 degrees below zero, and there seemed to be less consumption of honey and the fewest dead bees during that season than any season yet.

Dr. Miller—The idea was advanced that in general cellar-wintering is safer than outdoor wintering.

Mr. Bowen—I would like to ask how far South he means that to apply. It seems to me that if it is successful with the thermometer 30 to 40 degrees below zero, the distance north and south doesn't make any difference. I never use the cellar, and I believe my loss is just as little as any wintered in the cellar. One thing I do is to see they are not to have an open ventilation, but on top of the brood-chamber I fix it so there is a close ventilation so the heat naturally arises from the brood-chamber, creates a very slight current so that the atmosphere drops back. You have a late season that way, and the bees never get killed.

Dr. Miller—I don't see that I am getting an answer to my question.

Mr. Poindexter—I was just going to answer that question in answer to Mr. Black's question about his ventilating hives. I think the principal idea was that the hives are to be kept dry. In keeping the bees from the cold by ventilation just keep them dry. Place them where they have a

draft and you would see in a very short time that the bees will die with the cold; they will be simply frozen up in a wet mass as if they were drowned. Within a week or so you will see drops or dampness collected.

Mr. Becker—I believe in cellar-wintering. Last winter I left my bees outdoors. The cellar was not in shape to put them in, and it was late before I could do anything, and I left them outdoors. I preserved with woolen carpets; I put a carpet over every one of the colonies. I really did not lose any during the winter. During the spring I bought 10 colonies of bees at a sale that had from 30 to 50 pounds of honey, but when I hauled them home (it was in the early part of March when I opened them) seven out of ten had died; the rest were alive. Now I will tell you what I believe, that they froze to death, for they had plenty of honey that they could reach. I put cloth on top of them. My own bees came through the winter in good shape, but these bees dwindled away till only a few were left. For good wintering have a sufficient number of young bees to go through the winter and be on hand the next spring. If we have no honey-flow in the fall they can't produce young bees to last till the next April or May, and their natural age has come and consequently you lose the colonies; but if they are in good condition and you have plenty of young bees they generally come through as a good colony next spring. I winter my bees in the cellar, and if the cellar is dark I have no trouble of any kind whatever.

Mr. Becker—I think it would be well to appoint a committee of three from the Chicago-Northwestern Association as the Legislative Committee, to act with the committee from this Association. I think it would be all right. We want some help. I move that the Executive Committee of that Association be appointed by the President of this Association.

Mr. Smith—I think it would be right to ask them to appoint a committee to act in conjunction with this committee, that they might appoint two or more.

Mr. Black—I would move the executive committee of this Association be authorized and instructed to use the proper means to get the Legislature to suppress foul brood, and that they ask any other committee from any other society to cooperate with them.

Mr. Bowen—A resolution has been adopted for that before.

Mr. Black—I move the Executive Committee be appointed by the society as a legislative committee for the ensuing year.

Mr. Smith—It is moved and seconded that the Executive Committee of this Society be the Legislative Committee the coming year, with power to add to it as they see proper. All in favor say "Aye;" contrary "No." Carried.

WORKING FOR COMB HONEY.

Mr. Black—I had intended to write what I had to say, for the reason that I don't like repetition, and in talking one is likely to repeat things not necessary, but circumstances prevented my doing it. In working for comb honey I have sometimes thought I knew what to do, and sometimes I was pretty sure I did not know what to do. To illustrate: I had 60 colonies of bees and 40 were the strongest I ever had in spring, and I thought I would try spring stimulating and get comb honey. I got less honey from those—considerably less—from those I stimulated than those I did not. They commenced swarming before the honey-flow got well on, and they gave me much more trouble than those weaker in the spring, and swarmed less. So I found I did not know quite so much as I thought I did.

Now the point, it seems to me to get comb honey, is to have lots of bees at just the right time; to have the hive below pretty well filled with honey or brood; and lots of bees together at the time. If you have too many bees when the honey-flow comes in, with me they are inclined to get to swarming, and sometimes I have been unable to control them, and sometimes they control me. I once thought I could control swarming pretty well, but they commenced early in the season, and swarmed, and swarmed, and I could not stop them.

For comb honey you should watch very carefully at the time of putting the first supers on the hive. I think one has made a great mistake, and it will cost him honey, if he defers many days after the proper day to put on the supers. I think to continue that, to get the greatest flow of honey, the supers should be put on early. If your honey-flow will hold out put another super on below when the first one is but half way filled. A third one should go on if you have any great honey-flow. During the last season I put on a super and waited for it to fill. I put on two every fall, and get both full as quickly as I get the one.

Now, there is another thing I feel benefited about in getting bees into the super. Sometimes the bees, if it is warm, lay out on the hive and take it easy. I had some that were decidedly lazy. I took a preparation I had and sprinkled it over the glass, and made them get into the super and I found that when I did that several times they went in the more readily. I found it was a good plan to make them go into the super. If it is hot it is a good plan to keep it cool, as cold protects it.

I will not take up any more time as the discussion may bring out some more points.

Mr. Becker—I move you that we appropriate from the State fund \$100 for the purpose of defraying the expenses of this meeting and other meetings.

Mr. Smith—It has been moved and seconded that \$100 be appropriated out of the State fund for the expenses of our meeting. Any remarks?

Mr. Becker—The reason I say this, is, we agreed to pay Dr. Miller's and Mr. France's expenses, and other expenses that may occur, stenographic work, etc. I move we appropriate from the State fund enough to pay for the meeting, publishing reports of proceedings, and the suppression of foul brood. I don't think we are infringing any law whatever.

Mr. Bowen—I think the Executive Committee has a right to draw without any motion.

Mr. Black—I think so.

Mr. Miller—The question is whether it would be wise to appropriate it, for the expenses must be met, and the Executive Committee can attend to that.

Mr. Black—I don't think we ought to use this fund for the Legislative Committee—not a cent of it.

Mr. Smith—We will not.

Mr. Stone—No, but we have been instructed by the Executive Committee to go ahead and get out letters like we did last year. If we get out letters and then send them out, it will cost \$20.00 for postage, without any expense of printing. Anything of that kind can come out of that fund. There are a great many things for which it can be used. It would do just as well to let it go along in the old channel, and let a voucher go in for every expense, and not have the trouble of showing what everything in the fund went for.

Mr. Black—I want the itemizing to be just as particular, anyhow.

Mr. York—It seems to me the Executive Committee can only pay bills that are put in.

Mr. Stone—The same trouble comes up there. This Auditing Committee wants me to pay the money to the Treasurer as fast as I receive it. I have to take money out of my own pocket, and then draw on the Treasurer for money, and then the Committee complains that it ought to be turned over to the Treasurer. These things get pretty complicated.

Mr. Black—They get worse when we don't, sometimes.

Mr. York—I don't think the law intends to control the general fund. We could keep two funds. It is the State fund that the law fixes, not the general fund. Money for postage, stationery, etc., can come out of the general fund; paying the officers, etc., will not come out of the State fund. Now, the question that would be asked would be, "What are you doing with those badges? Do they materially affect the bee-keepers' interests in the State?" They must come out of our general fund. We can't use the State fund as we please.

Mr. Stone—I believe it is more important than that the State Commissioners can ride around in automobiles. It is on the same line.

Mr. Becker—We never intended when we spoke about badges that they were to come out of the State fund.

Mr. Stone—No, we did not intend that.

Mr. Bowen—I say, let us use the State fund for the original purposes for which it was intended. If you want to

spend \$100 or \$200 I cannot see why you cannot get it without using this money.

Dr. Miller—Might we not reach that by authorizing the Treasurer to have a certain amount of money left in the hands of the Secretary?

Mr. Stone—Not what it is for, Doctor.

Mr. York—I would like to ask a question. How much money did the Association raise, toward the expenses of getting the law last winter?

Mr. Stone—We did it all gratis. I was at the State House twice a week nearly every week during the pending of those Bills and I did not get even enough to pay for my dinner, to say nothing of my time.

Mr. Smith—I was down here five different times. My expenses were \$12.00, and I paid \$6.00 for typewritten letters sent to all the members—all money out of my pocket.

Mr. York—I don't think Mr. Smith ought to be required to stand that. I don't think we want him to be out that much money for the good of the bee-keepers of this State. Mr. Moore came to Springfield last winter, and he is a poor man and could not afford to spend his time. He is out of pocket. I claim that his expenses ought to be paid for by this Association. I don't think they ought to be asked to take the money out of their pockets.

Dr. Miller—Do you think that money was for the purpose of advancing the growth and interest of the bee-keepers of Illinois?

Mr. York—Yes, sir, I do.

Dr. Miller—Then all right; get it out of that fund.

Mr. York—It was just said not to use this money for legislating. How are we going to get this Bill passed, then?

Mr. Black—I don't think I should put in a bill for it.

Mr. York—We ought not to ask poor men to do it. I don't want anything but what is right, but I stick to what is right.

Mr. Black—We are asking the State to do certain things for us, and we ask the State to pay us to inform them what we want them to do for us; in other words we are making the defendant pay for the plaintiff's case. I know that when we are supposed to be using other folks' money we will be turned down, and we ought to be.

Mr. Stone—When that law was passed, and we were given the appropriation, we wanted a foul brood inspector, but could not find one. The Chicago-Northwestern wrote to us and they could not pick on a man to select for the office of State Foul Brood Inspector. Our President said he had stamped out the disease in his neighborhood and could do the work. Then the question came up, Shall we lose our President? We resolved that the office would not conflict with the Inspector; while we believe it is better not to have the Inspector an office-holder in our Association we could not find a better Inspector. Now we have more inspectors that we can place our fingers on.

Mr. France—In regard to Mr. Stone's remarks about

inspectors, I have been trying since the first of the year in our State to find some one to take my office and let me out, but I confess it is hard to find. I find plenty of people who know about bees, but that is not all that is needed. In Wisconsin, treating bees is not half the trouble; it is the man who keeps the bees to treat, rather than the bees, and it is hard to find a man to suit the people who own the bees. In many States they have County Inspectors appointed by the County Commissioners, and it is sometimes like a team of horses that don't pull together. Political matters get mixed into it, and there is a chance to "get even," as the saying is. To illustrate: Two men were candidates for City Mayor. One, of course, was elected and the other not, and the other man was elected foul brood inspector. During the time this man had some bees. He quarreled with his neighbor and was commissioned bee-inspector. "Now I will get it back on you, Charlie," he said, "Going to burn your bees for you tomorrow."

But I have a deputy in many places, someone to see that the work has been finished that I started to have done, and I really believe that in our own State it has been more economical to the State, and the deputies all drawing money make a big bill. The first year or two I had opposed something, and the papers had reported that the inspector would burn up the hive. Do you wonder that I was met at the gate with a gun and a dog to keep me off the premises? I sent out postal cards and outlined a circuit over the State, and I established dates that I would be at a certain place a certain day, and all the bee-keepers in that vicinity were there, and in many cases I deputize someone to look after the neighbors, and with the exception of two they have done their best to help their neighbors get rid of the disease; they will leave their farm work if they know when I am coming, and take me to their farm. I find the German wax-press is the best of anything to save the wax, but the expense of the thing is so much that there are only a few in the State. I purchased a German wax-press, and have it checked as my baggage. It has gone as personal property all around the State, and when I find foul brood I clean everything all up, without any expense to the State, except just the hours I am out with it. I have the counties in our State that were infected down to four at the present time.

Mr. Black—I think the Association might print a little booklet describing foul brood, telling what can be done with it and advising that the inspector be notified as soon as possible, and let the booklet be sent with the letter from the inspector. He can, by that means, come in a pleasant manner as possible, and they will be more ready, and be better qualified to aid him when he comes.

Mr. Smith—It doesn't take long to educate the people; they are all interested, and those who don't know about foul brood want to know about it. That circular is what I want so that I would not have to write the same thing over and over again.

Mr. Black—Let the people know that we are going to help them and not hurt them, and they will help themselves and us.

Mr. Stone—The inspector would be the proper one to issue that leaflet.

Mr. Bowen—Everyone here has had instructions enough to tell what foul brood is and can tell it if it comes into their own hives. I believe we can all tell it when our bees get foul brood.

Mr. Smith—I want to tell you that last August was the most severe task I ever had. I had to go over 150 colonies in one day and the bees were cross and it did not make any difference how much you smoked them, they would get up and go after you just the same.

Mr. Coppin—Whenever there is a strong enough case of foul brood to smell it with your nose, there are not many more bees left that are alive.

Mr. Stone—We have to name an inspector for next year.

Mr. York—I move that Mr. J. Q. Smith be appointed as Inspector for the coming year.

Mr. Black—I second the motion.

Mr. Stone—Our State law leaves it to us to elect and to send the Inspector out.

Mr. Black—Doesn't he receive some commission from the State?

Mr. Smith—Only from the Association.

Mr. Stone—They look to us to name the Inspector.

Mr. Black—All in favor of Mr. Smith for Inspector signify by saying "Aye." Carried. Mr. Smith is the Foul Brood Inspector of Apiaries for the ensuing year.

Mr. France—We must have this inspector backed with authority if we do any good. He must have the power to arrest any one not allowing him to inspect the apiary.

Mr. Smith—The people are afraid it will cost them something. When they find it is done at the expense of the State they are willing to let the Inspector inspect the apiaries.

Mr. Bowen—I move that our Inspector keep an accurate account of his transactions in regard to the locality visited, the number of apiaries he has treated, and make a written report at the next annual meeting.

Mr. Becker—I second the motion.

Mr. Smith—It is moved and seconded that the State Inspector keep an account of his expenses. Are you ready for the question? All in favor say "Aye." Ayes have it.

Mr. Becker—Mr. President, I have been here every meeting, almost, and it is my belief that this has been one of the most profitable meetings we have had for some time, and I move that we give a vote of thanks to Mr. France, Dr. Miller and Mr. York for their attendance at this meeting.

Mr. Black—I second the motion.

The motion was put and carried.

Mr. York then read the following paper on

SELLING HONEY THROUGH GROCERS.

The methods of selling honey through the grocery trade, whether in cities or small towns, must be pretty much the same in all essential respects. It will hardly pay to attempt to sell honey from house to house, especially in cities. There is already too much of the peddling or canvassing business done there. It is becoming an unbearable nuisance to the house-keepers. So I take it that the best way for the honey-seller is to work through the grocers who are already established and are supplying families with other things for their tables.

At present honey is considered by consumers a luxury, or else is not bought on account of fear of its adulteration. In either case it will be necessary to do considerable educating. Honey should be used more, and will be when once the people come to know its value as a food, and also when they can be assured that they are getting the absolutely pure article every time they buy honey.

But one of the main questions is, How put up honey so that grocers will be induced to handle it? Of course it must be in suitable or convenient packages. Comb honey will always be retailed by the section, which usually weighs about one pound. And the price should be for the best grades, from 18 to 25 cents, depending upon the locality—or ability of the consumers to pay. People who think they can afford to pay 10 cents or more for a useless cigar certainly should not object to paying 25 cents a pound for honey.

Extracted honey, put up in neat labeled jars holding a pound each, should retail for at least as much as a section of honey.

It is very important that honey of always the same grade and flavor be bottled. If these characteristics are varied, the consumer's suspicions are at once aroused, and he thinks he is being swindled by an adulterated or mixed article. He does not know that different kinds of flowers produce different flavored honeys. Where a bee-keeper or honey-dealer has a mild-flavored honey, but of insufficient quantity to supply his demand year in and year out, he can buy a stronger-flavored honey to mix with the mild kind, and thus increase his supply, and with about the same flavor.

In order to do a bottling business of any magnitude, or where one bottles several tons of honey a year, it is necessary to be equipped to do it rapidly and well. A full equipment will cost about \$100, which includes hot-water heater, a metal melting-box for 60-pound tin cans, and a combined mixing and filling tank with jacket for holding hot water. A firm with which I am familiar has such an outfit, and can bottle about a half-ton of honey a day.

This concern's melting-box holds 18 60-pound cans at one time, and the bottle-filling tank about 100 gallons. It also has a second filling tank holding about 50 gallons. This latter tank is used mainly for melting granulated honey that

was in barrels. A barrel of honey is stood on end on a sheet of galvanized iron about 4 feet square laid on the floor. If the honey is not solidly grained, the edges of the metal sheet may be turned up, say two inches. After ending the barrel, it is all removed in pieces, except the bottom-end. The honey is then shoveled into the melting tank. This beats digging the honey out of the barrel. Emptied barrels are worth practically nothing, anyway, so they may as well be torn to pieces, and the honey shoveled, as mentioned. Perhaps the barrels could be sawed or broken up, so as to be burned in the heater, and thus be used as fuel for heating the water to melt the honey.

The heater and the melting tanks should be connected so that there can be a circulation of water through all of them at the same time, or arranged so that each can be disconnected at will.

The honey should be bottled and corked or capped hot, say as near 160 degrees as possible. But great care must be used not to let the honey stand long in the melting tanks at a high temperature. It should be bottled *at once*. If not, the flavor and color will be injured. If overheated, or allowed to stand too long at a high temperature, it becomes a dark amber, and somewhat bitter in taste. Of course such honey *can* be used for baking purposes or for making honey-vinegar, but even for baking I think that better honey would make better cakes and cookies.

Now, having the honey bottled, and nicely labeled, the next thing is to get it into the grocers' hands. Take a sample jar or bottle (several, if you have various sizes) and call on the grocer. Tell him your prices, and suggest at what prices the honey should be retailed. It is a good thing, also, to leave him a honey circular, giving directions as to the uses of honey and where to keep it properly. Tell him what day you will deliver whatever he orders, and try to have a fair-sized wagon-load *before* making *any* deliveries.

It is a good thing to make regular calls on the grocers, and see that they are kept supplied. Also, whenever you call leave a self-addressed card (authorized postal size) on which they can write their orders, affix a one-cent stamp, and then mail. Such cards are a convenience all around. If you have a telephone it is well to print your number on the card also.

Some honey-sellers have found it an advantage to have attractive honey show-cases which they *loan* to any grocer who will keep their honey for sale. Such case holds perhaps two or three dozen jars, and about as many sections of honey. The idea, then, is to load up a wagon with honey, call on the stores where the honey-cases are, and see that they are kept filled. This plan has worked well. It is rather expensive to start with, but as many grocers have no good place to put honey so that it can be seen by their customers, and also where it will be kept clean, a glass show-case is a good thing for all concerned.

An individual glass jar has been used with some success

in the restaurant trade. It holds about two ounces of honey, and is also neatly labeled. The cost of the jar is about 2 cents. The jars can be returned after using, at one cent each. As many restaurants charge 10 cents for a serving of honey it will be seen that there is a profitable field for the individual honey-package for hotels and restaurants.

But what needs to be done *first* is to get into the heads of the consumers the fact that they can buy pure extracted honey; that comb honey is not made by machinery; that honey is the best sweet on earth; and that they ought to eat more of it, and cut out the glucose syrups and other questionable mixtures that are forever being palmed off on the public. These are matters in which every bee-keepers' association, as well as bee-keepers themselves, can help, and help mightily. We must all unite in *talking* honey, and also in getting newspapers to print items about honey. The National Bee-Keepers' Association should lead in this campaign, I think. It should prepare suitable matter for publication, and then its members and local organizations should see to it that every editor they know publishes it in his paper, even if it takes a little cash or several pounds of honey to induce him to do it.

I believe when the people of the United States once understand the honey question they will use our sweet in such quantities that bee-keepers will have to bestir themselves in order to supply the demand. Then the advice to "keep more bees" will be heeded more than it is now, for bee-keepers will see that there is a profitable outlet for their crops of honey, and that there is good money in the business.

I trust this convention will discuss this question fully. It means so much to every bee-keeper in the land. Just now there are bee-keepers who do not know how or where to dispose of their honey. In the good time coming such will not be the case. Honey-buyers will be hunting for honey—they will be calling on bee-keepers to send in their honey, and at a good price. May that happy day be hastened in its coming!

GEORGE W. YORK.

REPORT OF THE STATE INSPECTOR

To the Illinois State Bee-Keepers' Association I submit the following report:

In making this my first annual report of State inspection, I will say that the work to be done in this State is far more important than the best-informed on this subject can imagine. *Bacillus alvei* (foul brood) I have found to exist from the counties bordering on Lake Michigan to the banks of the Mississippi River.

In my work I visited bee-keepers in 32 counties, and found foul brood in most of them. I also found the infection had been brought by buying bees and queens from diseased apiaries and careless dealers. Any one buying queens should be very careful. The trouble may be avoided by removing the queen from the cage upon arrival into a clean cage, and burn-

ing the cage and attendant bees that came by mail. I believe that the best way to get rid of the disease is to educate the bee-keepers through the bee-papers, agricultural and horticultural publications.

A great many mistake chilled or pickled brood for foul brood. It can be easily distinguished from foul brood, as pickled brood, or chilled brood, occurs after the larva has passed the 13th day from the egg. The young bee takes on the nymph form, that is, the formation of legs, wings, etc., while the larva infected with foul brood dies in the pupa state about the 10th day. After a few days it settles back into the bottom of the cell and turns into a putrid, ropy state, and can not be shaken from the cells, while the pickled and chilled brood shrivels up and can readily be drawn from the cells intact.

I find that the practical bee-keepers are, as a rule, their own inspectors—the trouble comes from the novice or persons who never have seen the inside of a hive of live bees. In my visits with the bee-keepers, I find them all anxious to learn to know foul brood, so they can take care of their own and neighbors' bees. As a rule they are intelligent above the average, and very pleasant ladies and gentlemen.

In my work last season I inspected over 4000 hives, and although last year was a very poor honey year, the bee-keepers were not discouraged, but are looking forward to the coming season for better results.

I believe that good results could be attained, as Mr. N. E. France, State Inspector of Wisconsin, suggested in his report, by bringing together the farmer bee-keepers at the winter Farmers' Institutes, and having there a talk on bees and their diseases; also distributing to bee-keepers the old, reliable McEvoy treatment, which never fails to effect a cure. I find that a number of bee-keepers have the wrong idea regarding the treatment and costs, as in their letters they want to know what the cost will be to have their bees inspected.

I appointed Mr. Herman F. Moore my deputy last year, to look after the disease in Cook and adjoining counties. He visited a number of apiaries, and I herewith give his report for work done:

PARK RIDGE, ILL., July 11, 1904.

MR. J. Q. SMITH, Lincoln, Ill.—

Dear Sir:—I have finished my 30 days of inspection of apiaries. I visited about 125 yards, and found foul brood in about 12, containing 88 hives of bees. Possibly one-half of the 88 are diseased more or less. These figures show the importance of the work, and the need for a better law. The work has been very interesting.

HERMAN F. MOORE,

Deputy Inspector of Apiaries.

In my treatment and instruction to others I have used the McEvoy treatment. I have never burned a colony of bees where there was a fertile queen and bees enough to form a nucleus, which can soon be built up by adding combs of brood from strong colonies; the hives can be used again by boiling

in strong salt or lye water. Care should be taken in removing the bees from the diseased combs, so that no robber-bees can have access to the combs. The work should be done at night while no bees are flying, or, if in daytime, in a tent or well-enclosed building.

J. Q. SMITH.

Lincoln, Ill.

Adjourned.

The Secretary—As we have gone over this report, we are exceedingly disappointed when we realize how many were left out, of the many good things said, for the simple reason that the reporter did not get their names. Fearing this we gave them warning, but were disappointed notwithstanding, through no fault of ours.

JAS. A. STONE, Secretary.



OBSERVATION HIVE FOR SITTING-ROOM WINDOW.

REPORT OF THE PROCEEDINGS

— OF THE —

Chicago-Northwestern  Bee-Keepers' Association

— HELD AT —

Chicago, Ill., Nov. 30 and Dec. 1, 1904.

Through the courtesy of George W. York, of the American Bee Journal, we are permitted to print the following report of the Chicago Northwestern Bee-Keepers' Convention.)

The 14th convention of the Chicago-Northwestern Bee-Keepers' Association was held in Chicago, Nov. 30 and Dec. 1, 1904. The first session was called to order by Pres. George W. York, at 10:30 o'clock a. m., Nov. 30, after which Rev. R. B. McCain offered the following invocation:

"Almighty God our Heavenly Father, we rejoice in the fellowship of thy servants in the world who, whatever their avocations and occupations may be, may come together in fraternal relations and speak to each other of the interests of their lives. We thank Thee for the goodly number that have come here to talk over their daily work; and we pray, Heavenly Father, that Thou wilt give us the Master who walks in the midst of the blooming fields and waving corn, and who speaks the words of eternal truth to those who listen to Him. Wilt Thou give His direction and the guidance of His spirit in all we have to do. We pray Thou wilt bless those left at home, protect them and keep them and watch over the interests of all Thy people. Guide us to Thy praise and glory while we live, and afterwards may we have an eternity to spend in Thy presence with Christ, our blessed Redeemer. Amen."

Pres. York at this point took the opportunity of introducing those present to one another, after which the secretary read the minutes of the preceding convention, which, on motion, were confirmed.

Secretary Moore—A great many years ago there was an honest old gentleman by the name of Jimmie Griffin, when I was very small, and he says, "Francke, blow your own horn or you'll never get a wife." So we have to blow our own horn a little or people won't know we are doing anything. The Executive Committee about three months ago got together and decided they would try to have a big meeting here this fall. We decided to send out two thousand

notices of this meeting. We sent it to everybody that would likely, as we thought, come to the Live Stock Show in Chicago in December. Mr. York thought we would get quite a few dollars in. We got \$23 in the mail as a result of that, and we are hoping we will get many more dollars at this meeting.

The President appointed Messrs. Fluegge and Jacob as ushers.

Dr. Miller—After hearing the report of the Secretary I feel, as an officer of the National Association, like thanking the officers of this Association for the action they have taken. It didn't occur to me before that a thing of that kind would mean so much to the National as it does; and that sort of thing I think will help to increase the membership of the National. It is an auxiliary to it in increasing its numbers. I believe the action in that respect is worthy of commendation.

Pres. York—There were some who did not get the notice we mailed, and the reason is this: We took the American Bee Journal list, commencing with the State of Wisconsin and stopped when we got to the end of the two thousand notices, which included Wisconsin, Iowa, Illinois and Indiana. There was no intention to slight anybody, but we thought we had better stop when we got to the end of the two thousand. We believe we did not get any of them.

Sec. Moore—I thought we would get a lot of people in, but I didn't expect to get even \$23 in the mail, but I was sure we would have a very big meeting.

Mr. Abbott—I want to call attention to one fact, that because only \$23 came in is no argument against the circular. Publicity is the biggest part of advertising. We newspaper men find they are always trying to play that racket on us every time, but a man doesn't throw his money away when he does not get returns. He lets people know he is in the world, and that is the biggest part of advertising.

The treasurer's report was read and approved, after which an intermission of ten minutes was taken to allow those present to pay their annual dues.

THERMOMETER IN THE BEE-CELLAR.

"Where should a thermometer hang in a bee-cellar?"

Dr. Miller—I should say that it is not an easy matter to decide always where a thermometer should be hung in the cellar. Quite a number of degrees difference will be found in different parts of the cellar. At the top it will be warmer than down at the bottom, so I try to find where I think will be about an average temperature for the cellar, and it does not matter so much where it is as that you keep your thermometer in the same place all the time. If I have it in any one place and decide about what I think the temperature is at which the bees are quietest, then I try to keep it at that temperature. Another thing, you cannot go by absolute degrees, because thermometers vary so

much. As I said before, it doesn't matter so much, then, what temperature you have as that you find at what temperature the bees seem most quiet, and then try to hold it at that.

Mr. Dadant—I wish to emphasize what Dr. Miller says as to the temperature at which bees are quietest. The thermometer is always needed to tell you whether, when the



President GEORGE W. YORK.

bees are not quiet, the temperature is too high or too low. If you find your bees quiet at say 40 degrees and you come back again and find they are not quiet, and the temperature is 42 degrees, you know it is a little too high. If you did not have a thermometer you would not be able to tell whether it was too high or too low. I believe that is the only purpose of the thermometer. If you can get your bees quiet and

find out what the temperature is under those conditions, and you keep your bees quiet at that temperature, it does not make any difference where your thermometer is.

Dr. Miller—I am not sure but there is a way of telling. If I understand Mr. Dadant correctly you can't tell by the noise of the bees whether they are too cold or too warm. I wouldn't like to be too critical about it, but I think when they begin to get too cold there is a kind of rattling noise, if I may so call it, of their wings, that you hear, and I don't think I could tell you what the other is, but there is a little difference in the noise, Mr. Dadant, between being too cold and too warm.

Mr. Colburn—In relation to this noise that you speak about, that is the noise bees make in the cellar, I have never had much experience in cellar-wintering—only two winters—and I found my bees making some sort of a noise all the time, and yet they came through last winter very nicely. The question is, how much or how little noise would a greenhorn want to observe in order to know what the temperature should be.

Mr. Stewart—Is there any temperature where bees always keep quiet in the cellar, or do they always keep quiet at any temperature in the cellar?

Dr. Miller—I think there are some who claim they can secure perfect quiet. I never could. I think you will find this: If you have one colony in the cellar and watch it closely you will find part of the time that colony will be perfectly quiet, and then it will have a spell of stirring up and it will be noisy, and then quiet for a long time. If you have a number of colonies in the cellar you will find that there will be a noise there all the time. At least that is the way I find it. At times there will be very little noise; it will suggest to you the blowing of a gentle breeze through the dead trees in winter time. That you will find at all times if your cellar is like mine; and that I think comes from the different colonies, here and there, making an unusual amount of noise. I don't believe there is any one colony that is all the time the same way. I think they have their spells of "turning over in bed," when they make a little more noise than usual. But as to trying to get them so that they are entirely quiet all the time, you might as well give that up. But, find the temperature at which they make the least noise. That is the point.

Mr. Kimmey—Do bees make more noise as they become too cold?

Dr. Miller—Yes.

Mr. Kimmey—Suppose I should find my thermometer at 28 degrees, would you advise me to leave it that way? Do you think it is possible to find it that way?

Mr. Miller—No. I think you might possibly find, the way you have it in your cellar, that they were most quiet at 40 degrees. I might find them most quiet at 47 degrees. That is, your place and my place may be different. But your question?

Mr. Kimmey—My point is, is it possible that the bees would be so cold that they would make less noise than they ought to?

Dr. Miller—No, sir, unless they are dead. When they are dead they make hardly any noise! (Laughter.)

Mr. Kimmey—I don't want that then. I have tried to keep mine between 45 and 50 degrees, and have succeeded very well and have not lost any. I would like to do better than that if I could!

Mr. Abbott—I would like to ask a question, to bring out a point. Dr. Miller says that they will make some noise unless they are so cold that they are dead. I should like to know if Dr. Miller thinks that bees ever get so cold in the cellar or out-of-doors that they die from cold when they have plenty to eat? I don't think they do.

Dr. Miller—There are some things I don't know. One of the things I do know is that Mr. Abbott doesn't think as I do about that. My bees will freeze. I take a bee in my hand and if I hold it out in the cold long enough, that bee is going to freeze.

Mr. Abbott—That is not the question. Don't confine it to a single bee. If two lie together they make heat. You can't make heat with one. If a lot of bees lie together they make heat. Do they ever freeze when they all lie together in that way?

Mr. Dadant—How big a bunch of bees?

Mr. Abbott—The ordinary size?

Dr. Miller—If there is a stove in a room and it is hot enough people are not going to freeze, and as long as there is plenty of food there to keep the furnace going the bees will keep up that heat; they are not going to freeze. When they fail of that they are going to freeze, Mr. Abbott to the contrary, notwithstanding. He says they starve. I say they freeze. You can pay your money and take your choice.

Ernest R. Root—I would like to answer both Mr. Abbott's and Dr. Miller's questions. Last summer in queen-rearing operations we conducted a series of experiments to get some drone-layers. We had read in some of the old works that if you freeze a queen for awhile she will become a drone-layer. So I took about a dozen of our young, nice vigorous laying queens, caged them with the bees, put them on a cake of ice in a refrigerator and left them, varying all the way from two hours up to 48. I expected some of them to be dead. The bees were perfectly stiff at the end of two hours. I took them out and examined them and put them back, and some of them we put into nuclei to see what they would do, to see whether the queens would refuse to lay regular worker eggs. I don't know whether you believe me or not—I don't know whether Dr. Miller or Mr. Abbott would; I don't know exactly how they disagree, but we found in every case that when taken off the ice, chilled, cold—I won't say they were frozen to death; they couldn't have been—in a few hours they would "come to;" the queens would begin in three or four days afterwards

to lay, and lay normally, and not one of them laid drone-layer eggs. The question was, if bees can be put in a position where they are perfectly stiff with cold for 48 hours, can they be kept in that condition longer, and, if so, how long? I omitted to carry on that experiment. It has been said bees do not die of cold. What kills them we do not know.

Another question, I should say the question of the temperature of the cellar and the buzzing and noise depends somewhat on the time of year. When the bees are first put in they are apt to be quiet in our cellar, with a high or low temperature, but after they have been there for three or four months they begin to get uneasy. Then the latter must be accounted for. If the temperature is too high or too low it must be brought to the proper degree. Giving bees a midwinter flight stops the buzzing and roaring in our case. I would describe this noise, when it is normal, as like a harp. Once in a while you will get a noise something like the sound of telephone wires, not that high note, but a sort of low, distant hum. When you get something of the effect of that contented, quiet noise amongst the bees that seems to indicate everything is normal and right, that is the condition we call perfect; and yet there is a little noise there, and that noise might, to the beginner, seem to be the wrong thing.

Mr. Abbott—We don't get the point exactly yet. I think this is a vital point, and I have been trying to get the bee-books and bee-papers, to say something about it for a long time and they have persisted in not doing it, and that is the reason I am calling it out. I hold that bees are wintered successfully where the mercury runs down to 40 degrees below zero, out-of-doors, on the summer stands; and that that can be done in any place in the United States, provided there is food accessible; and that no normal cluster of bees ever dies from cold when there is food accessible; and to be accessible it must be directly above the cluster; and that the bees in that condition will winter safely any place in any temperature that ever existed in the United States or ever may exist—if the food is accessible—if the "stove" is there, as Dr. Miller says. He brings the point out clearly. If the food is on another frame or where they can't get at it without breaking cluster or following up the line of heat they will die from starvation, but if they can get at the "stove" they will not die. Now if anybody has any evidence to prove to the contrary I should like to know it, for I have been talking this thing for 15 or 20 years, and I don't want to talk it any longer if it is not right. But I do, if it is right, longer and louder.

Mr. Wilcox—What I was going to say was bearing rather upon the discussion between Dr. Miller and Mr. Root, but since Mr. Abbott has spoken I want to say I have conducted one experiment that substantiates his claim very much. I once took a bee-tree about four feet long and set it up in the front yard, full of honey and bees, and with a temperature of 40 degrees below zero. It froze and burst open the whole length; and those bees wintered well and came out right in the spring. I could put

my hands right through a crack anywhere in that tree. That goes to confirm somewhat Mr. Abbott's theory. The other matter about which I wish to speak is not very important or profitable, but may perhaps be interesting as an experiment. Before I commenced keeping bees in movable-comb hives I inverted a half sugar barrel filled with bees and honey; poured cold water clear to the brim to drown the bees; left it 24 hours with a temperature of 25 or 30 degrees below zero; then went to carry my bees in and get my honey. I was surprised on moving it into the house to find that the water was not entirely frozen over at that very cold temperature and 24 hours out-doors, but I rolled it up under the stove just the same and melted the ice out and went away from home. In a few hours more the bees drove my wife out. They were all alive and happy as ever. The query is, Why didn't they drown? Every bee was under water; they were completely covered. Then, again, why didn't that water cool off and freeze over? I suppose perhaps the warmth of the bees prevented that, but I would have expected them to drown if they breathed. Can they live that long without breathing?

Mr. Becker—As to the question, do bees freeze out-doors, I want to say this, that I have had bees that were out-doors all winter with broken hives that you could almost run your fist into, and they appeared to have wintered all right. Last winter when the thermometer went down to 25 degrees below zero in our latitude, I had 10 colonies in new hives, with plenty of honey, and every one of them died, with the exception of one, before spring came. It lived until spring and then dwindled away and finally died, and in the hive there was as much as 50 pounds of honey. The other hives, many of them full of holes, stood on the summer stands. I couldn't take care of them in the fall because I was too busy. I put in a piece of gunnysack to fill up the opening and they wintered through in good shape, and produced virtually the honey I got this year. I believe it is not so much the cold as it is the condition that the bees go to winter quarters in. I don't believe in outdoor wintering. I don't want to risk it if I can possibly help it. I believe what will do one year won't do another year. The conditions as to bees are different one year from another in one locality; and they may be all right in one locality and not in another. I also believe that if we can keep our bees dry, or from getting too much moisture around the cluster, that the cold will not affect them so much as the dampness does. The honey will freeze around when there is much honey in the comb, and there will be great chunks of ice hanging around the bees all over the comb, and that is one effect of out-door wintering. When it is not warm enough so that they can come out and clean themselves they will begin to get damp, and the dampness will get through all the hives, and then the next little cold spell will catch every one of them and they die. Where we winter bees in the cellar, we aim to keep them dry and avoid the extreme cold. I believe that dampness has more to do with it than cold weather.

Dr. Miller—I don't believe that this is a matter of vital importance and I hope we will not take up time with it, but if you are going on with it I want to say what I think about it is, a single bee will freeze—I think no one disputes that; two bees put together will freeze if it is cold enough and the cold continued long enough; so will three or four; and there comes a point somewhere where Mr. Abbott will tell you they don't freeze, they starve. If you have a small cluster that



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small cluster will freeze, and before we get to the place where Mr. Abbott says they starve, they still will die, whether it is from freezing or from starvation, or whatever it may be. But here is the point. You put them down to 40 degrees below zero, or put them down to the point where they do not stir, and I think you will get a point, and I don't believe the bees will move at that even if there is honey above them. They will wait until it gets a little bit warmer before they will break cluster to get anything fresh. If you hold them

there long enough, and if the cold is severe enough, they are going to stay there and they will freeze, and freeze to death. That is what I think. Now Mr. Abbott thinks they starve. Stop that cold at any time and let them warm up and start in afresh. But I say, put it down cold enough and hold it there and those bees are going to freeze. You don't call it starvation with a single bee, why should you call it that with the colony? I don't believe it makes a particle of difference which way you believe.

Mr. Abbott—They don't get 40 degrees below zero in the cluster.

Mr. Stuebing—I am an old bee-keeper—about 50 years in the business. When bees are given honey they will never freeze outdoors.

Mr. Root—I don't know whether I agree with Dr. Miller or Mr. Abbott. I am going to tell you something, and Mr. Abbott can clap his hands to show us whether it hits his way or not. We wintered bees for a good many years at Medina outdoors. We winter a good portion indoors now. I noticed that the bees that were dead on the comb would be circled around as near a sphere as they could be; that on each comb they would be in the form of a circle. If they were dead there would be about two inches without any honey around them at all. I never saw any bees that were dead that had access to honey, no matter how cold it was, but every time I found a cluster of bees dead I found they had eaten away all the honey around them to the extent of three or four inches. Seemingly they had got to the point where they couldn't move; whether they froze or starved Dr. Miller can settle.

ABSCONDING OF SHOOK SWARMS.

“How to prevent absconding of shook swarms.”

Mr. Smith—I find hiving them on a frame of brood as a rule would prevent that.

Dr. Miller—May I ask Mr. Smith whether he finds in hiving on a frame brood they start cells on that brood?

Mr. Smith—Yes, I have found that also; not as a rule, though.

Dr. Miller—One of the writers says, Give them a frame of brood and within two or three days take it away again to prevent them starting queen-cells.

Mr. Becker—If I have two swarms that come out at the same time I hive them on a frame of brood, and I never had one yet that left if I did that: and I always do it if I have two swarms come together.

Dr. Miller—Are you talking about natural or shaken swarms?

Mr. Becker—Natural swarms.

Mr. Snell—I never practised that very much, but whenever I have done so I have given the colony a frame of brood, and as yet I have never had them desert.

Mr. Whitney—I have practised shaking swarms and I have never had the shaken swarm leave the hive. Some-

times if I shake them on comb I take the queen with them, and I never had them leave.

Mr. Hutchinson—I never have had any experience myself with shook swarming, but quite a number of those who have written articles on that subject have made one point quite clear, that the bees should be pounded and disturbed and jarred until they fill themselves thoroughly with honey. The natural swarm fills itself when it starts out, and when that point has been attended to there has been very little trouble with absconding. Whereas, if we simply take them off the combs without any of this previous disturbance there will quite frequently be absconding.

Mr. Abbott—I want to ask if the people who practise shaking swarms give them the queen at once? The question is asked if they start cells on the comb? Do they not have a queen given them at once?

Mr. Hutchinson—They have the old queen.

Mr. Abbott—Suppose you make two or three swarms out of a colony?

Dr. Miller—We don't.

Mr. Abbott—I thought if they would give them a queen, and they had brood, I couldn't see why they would start cells.

Dr. Miller—As a matter of fact they do start cells. There are two things you are getting a little mixed, the absconding and the starting of queen-cells. The point is, Do they start cells? They have started cells for me in more than one case, and perhaps you who say they do not abscond, if you had examined carefully you might find that they had started cells. What they start cells for I don't know. Mr. Stachelhausen says they start cells and he gives them the sheet of brood, holding them there so that they won't abscond. Whether they would go on with that and rear a queen and swarm again I don't know, because I always stopped them and took them away. But it is, I think, a pretty common thing that they start cells when you give a frame of brood to a shaken swarm.

Mr. Whitney—Perhaps I don't understand. When I said they didn't abscond when I put them on frames of comb it is simply old combs with the queen. I don't understand that they would commence queen-cells under such circumstances as that. But when I give them uncapped brood and eggs I have never had them trouble me by attempting to abscond, but they do rear queen-cells, and they will rear a queen unless you introduce one, of course. I would think if they didn't commence making queen-cells you would have a very weak colony of bees very soon. When parts of mine leave the hive sometimes I have shut them in for 36 hours, and especially if I move that hive away from the old stand; and I have never had any trouble, and I have shaken swarms a great many times.

Mr. Abbott—I made shook swarms long before I ever heard tell of shook swarms, at least I suppose I was doing the same thing. I did this: I took a colony of bees and

divided it up into two or three colonies sometimes and gave them all a laying queen. I had the queens, maybe a dozen, before I commenced my work, and with each colony went a queen, turned loose at once, and they had one frame of brood and the rest foundation, and under such circumstances I have never had any cells started or had any trouble. My idea was to bring out the point that the way to make shook swarms is to keep a number of laying queens on the colonies you want to divide, and then turn the laying queens loose at once, and I don't think they will build any cells if you do that.

Mr. Hutchinson—If I understand the matter, they do not shake the bees from the colony until they have made preparations for swarming; and the bees are shaken off on the old stand and the brood given the bees on the new stand; and the old queen and all of the bees, or nearly all, go on the old stand, and the flying bees that come back join that, and that has a queen; and what we have been talking about is the giving of a new swarm a comb of brood to prevent them absconding, and sometimes they go to work and build cells on that. That is all the division they usually make; they do not divide them up into several parts; they just have the two; and the old combs of brood are usually given a queen-cell nearly ready to hatch, or else given a laying queen, preferably a laying queen. If it is given, then there is no use going to work and hunting up the queen-cells and destroying them, because that colony and laying queen will destroy them themselves.

Mr. Smith—I believe it is their instinct for their own preservation. You disturb a colony of bees, or alarm them, and they will immediately start queen-cells, but they will cut them out again after they find their old queen is secure, in a day or two. I think that is the reason; it is the fear of their queen being injured or taken from them that they start queen-cells.

Mr. Snell—I would like to ask any one who has given a shook swarm a queen, and then that colony started cells, if he has ever known them to be matured and a swarm made from such colonies? I would doubt their doing it very much.

ADVANTAGES OF THE "WISCONSIN HIVE."

"What are the advantages of the so-called Wisconsin hive?"

Mr. Bacon—It seems to me that the Wisconsin hive has the combination of the good points of the Improved Langstroth-Simplicity and also the dove-tailed; it seems to me that is the main reason for its popularity. It has a portico front and it is now made so that the supers which are now used with the dove-tailed hive can also be used on the Wisconsin hive. Those I believe are the principal points.

Mr. Abbott—I want to say that the main advantage of the Wisconsin hive is that its makers took all they could

of the "St. Joe" hive and put into the Wisconsin, and made a very good hive! [Laughter.]

Mr. Fluegge—I would like to ask these gentlemen what the slatting arrangement in their super is. If they got that from Mr. Abbott he didn't lose much. [Laughter.] I have several of them and I always took an axe to them to get the honey out. They may have improved them now. I hope they have. When I was a beginner I had six of them and the slats had no end-blocks; they fitted into a rabbet at the bottom of the super, and in order to get them out—one rabbet was a little deeper than the other—I had to lift them up a little ways and shove them over probably a quarter of an inch, and the other end would come out.

Mr. Wilcox—I have tried the Wisconsin hive somewhat. I bought one or two some years ago for trial and I found some disadvantages. The question calls for advantages.

Pres. York—We don't want to know the disadvantages—just the advantages!

Mr. Wilcox—One thing I disliked was that the end-bars of the brood-frames struck right out.

Mr. Root—That is the Langstroth-Simplicity.

Mr. Wilcox—I think it was listed as the Wisconsin hive. I might specify another peculiarity of it which was that the frames were anywhere from one quarter to three-eighths of an inch shorter than the regular Langstroth or what would be the old frame Langstroth length and that was an odd feature of it because it didn't correspond with any other frames in the neighborhood. Another feature of it was that described by the last gentleman about the supers. The slats in the bottom of the super didn't trouble me very much but I didn't exactly like them. I may be mistaken. I don't know. but I have always called it the Wisconsin hive. I think it was.

Mr. Whitney—I want to back up what Mr. Wilcox said about what he supposed to be the Wisconsin hive. You know last winter didn't treat some of us very well, and we lost a good many bees. I wanted some last spring to build up my apiary, and I went out and bought four or five colonies. They happened to be in a queer sort of hive; the frames were a little shorter than the Langstroth; I couldn't use them in the Langstroth hive when I came to make a transfer; and they had supers on that had that rabbet arrangement that the gentleman here speaks about. I thought it was a Chinese puzzle. I couldn't use it at all. Now, I don't know whether that is the Wisconsin hive or not, but as they describe it I should conclude it might be. It had a portico.

Mr. Abbott—I want these gentlemen to get a clear idea about these hives, and it is a matter of some interest. While I represent the firm making the Wisconsin hive, I think an explanation is due them at least. They have made what was called the Langstroth-Simplicity hive which is, I admit, practically worthless. They have discussed taking it off the market for a long time. It has a shorter frame, and a groove

all around, and the frames extend over. A great many people call that the Wisconsin hive. That is not the Wisconsin hive at all. That is a Langstroth-Simplicity hive. They make at the same time what they call a Wisconsin hive, that is the trade name; that has Hoffman frames in it which fit inside the hive on a tin rabbet. The sliding arrangement of the hive is the same as the St. Joe hive, and if the gentlemen do not know how to handle that, why, we are ready to show them how to handle it so that they won't have any trouble about it. But don't get the two hives confused. The old Langstroth-Simplicity hive, in my opinion, is worthless because it hadn't a correct bee-space above it and the frames were not the same. So when you order hives don't say you want a Langstroth-Simplicity hive unless you want an odd frame, for you will get it. The other is the same as the dove-tailed hive; and in all of the hives that concern makes, the frames are the same except that old Langstroth-Simplicity, and that is not of any account.

Mr. Whitney—When you order hives don't order the Whitney hive. He has a hive of his own, and he doesn't want any better, and he has none to sell!

Mr. Stuebing—It depends mostly on the man, how he handles the bees and how he places and handles the frames.

FIRST DAY—AFTERNOON SESSION.

Pres. York called for the report of the Foul Brood Committee which had been appointed two years ago.

REPORT OF THE COMMITTEE ON FOUL BROOD.

Mr. Moore—The Foul Brood Committee, of which I have the honor to be chairman, really has nothing to report. We reported in full to date at the last meeting, and from then till now there was no work that could be done except inspecting apiaries. I don't suppose that comes under the scope of this report. There is a heading in the program that does refer to such matters as that. We might make our recommendations; we might tell you a lot of things; we might say this fall the Legislature meets again and we have to get the law over again, or fail to get it. Mr. Kannenberg is with me on this committee, and I believe there is a vacancy to fill. As the committee having charge of this matter, we have to urge upon each one of you individually to do what you can to get a law through the Legislature this fall. If you know some member of the Legislature, communicate with him by all means. If you do not know any member take the pains to find the names and addresses of the nearest member to you and communicate with him. If every one of us would do that it would have a material effect. When I was there two years ago and appeared before committees of the Legislature to get the laws we did get, they said, "For

goodness sake, stop writing us letters; we will give you anything if you will only quit writing to us."

Advertising is what we want, and the members of the Legislature must know we are alive. How are they going to find it out unless by individuals writing and saying, Give us the laws we need? But hundreds have to do that. We want to ask this fall for either five or ten thousand dollars. In this State there are 102 counties. The State, in its census, has formally said that there are 35,000 bee-keepers in Illinois. If there were inspectors enough to cover that ground it would take 50 to 60 working six months. You can see how far five or ten thousand dollars would go. I had a conversation with the Hon. Mr. Austin, who got our last Bill for us, and he saw the point; he saw a thousand dollars wasn't a beginning for this great State of 102 counties with that number of bee-keepers. So that we want this fall \$5,000 from the Legislature to spend in the interests of the bee-keepers in this State, and it is a question of judgment whether to ask for \$10,000 and give them a chance to cut it in two, or ask outright for the \$5,000 we want. If you don't ask for anything you won't get anything, and in order to get anything we must have the help of all the bee-keepers in the State. I would like to hear from Mr. Kannenberg, who is a member of this committee, and has some things to say.

Mr. Kannenberg—I am one of the committee and we did pretty good work last year. I do not know whether we can do it this year or not. But one thing I think I must say, if we want to strive for that law we must have a compulsory clause in it or else it is no good to us whatever.

Dr. Miller—Hear, hear.

Mr. Kannenberg—That is right, Doctor. We want about \$10,000, that is about the only thing; and they will give us only half, the same as in damage suits, if the bee-keepers don't join in with us; I think we won't get much out of it if they don't help us the way they did last year. Last year I wrote hundreds of letters to all the Senators; I hope it did some good. As far as I know, the Hon. Mr. Austin is again elected to the Legislature with a large majority. I have not spoken to him this year, personally, because he is on his honey-moon trip. As soon as he comes back I am going to speak to him.

Mr. Wheeler—I would like to ask who the other Committee man is?

Pres. York—Mr. Clarke, I think was the other member of the Committee, but he has not served on the committee at all.

Mr. Wheeler—I would like to ask how many colonies of bees Mr. Kannenberg has?

Mr. Kannenberg—82.

Mr. Wheeler—How many has Mr. Moore?

Mr. Moore—I have never kept a large number; I have less than 35 now. My family keeps about 400.

Mr. Wheeler—What I was getting at was, we want representative bee-keepers on this committee; we want people interested, and that have thousands of dollars invested.

Dr. Miller—I have more bees than Mr. Moore and I don't believe that I could influence Mr. Austin as much as he has done. A man may represent a body of people without himself being one of those people. Possibly it would have its weight; at the same time if he can present the thing the right way that is more than to say he has the bees.

Mr. Colburn—A man has a thousand colonies of bees and he goes to our Legislature and he says, I want this and that, and the fellows say, you are selfish. If I have but very few bees and I go there for somebody else it will be two to one I will get what I ask.



Secretary HERMAN F. MOORE.

Mr. Whitney—My experience with politicians is that the man who has some influence in the community is the man who will get some help from the Legislature, not the man who may possess perhaps a thousand colonies of bees, or any other interest that he may represent. I know individuals who haven't a single colony of bees that I think would make good committeemen for that very purpose. It seems to me the point is well taken.

Mr. Becker—On behalf of Mr. Moore I will say that he is the right man in the right place. I have had some experience with Mr. Moore in the Legislature. Mr. Smith and I were before the Legislature when they tried to get our law passed and I know what efforts Mr. Moore made in that direction, and we never left until we had the guarantee that the law would be passed, as far as the Committee on Appropriations goes. We couldn't wait until the House debated on it and the Senate, but we had the promise of the Committee; and they passed it in the House and in the Senate before they left.

Mr. Wheeler—I don't like to be misunderstood. It wasn't in regard to getting that appropriation I was speaking, and getting the Bill through; it was in regard to the committee's work afterwards. You must not lose sight of the fact that people are interested that have money invested, and it must be looked into a little and we must see that we do not take men who are not interested financially in bee-keeping and who are not interested in the welfare of bee-keeping.

Pres. York—As I understand it, it does not make any difference after the law is secured. This committee has nothing further to do. The inspector is then appointed on the recommendation of the State Association, and the money is turned over to the State Association.

Dr. Miller—I move that the report be accepted and the committee continued.

Mr. Smith—Has that vacancy been filled on that committee?

Pres. York—Not yet.

Mr. Smith moved, which motion was duly seconded, that the chair fill the vacancy.

Pres. York—I think we might as well consider it a vacancy because Mr. Clarke has never served on the committee.

Mr. Wheeler—I object to that. I don't believe that is fair.

Pres. York—Then we had better have a motion to declare the vacancy.

Mr. Moore moved, which motion was duly seconded, that a vacancy be declared in the office of third committeeman of the Foul Brood Committee. [Carried.]

Pres. York then put a motion to fill the vacancy which on a vote having been taken was declared, carried. Mr. Horstmann was then appointed as third committeeman on the Foul Brood Committee.

Pres. York then put the motion to accept the report and continue the committee, which, on a vote having been taken, was declared carried.

Pres. York—Before we take up some of the questions which have been handed in we will have a talk by Mr. Ernest R. Root, of Ohio, on

BABY NUCLEI AND MATING QUEENS—BRICK HONEY

(Mr. Root exhibited before the convention a baby-nucleus box, illustrating his remarks as he went on by pointing out various features of the little outfit. We have since obtained a series of illustrations, and think the reader will have no difficulty in understanding Mr. Root's explanations if he will keep before him the illustrations.—Editor's Note.)

Perhaps those of you who devote your *whole* attention to the production of honey, may think that what I am now about to say on this subject will be of no particular interest

to you for the reason that you can better afford to buy your queens than to rear them yourselves. This, I believe, is a mistake, as the honey-producer should properly inform himself as to the latest method of rearing queens so that he can rear his own stock as a matter of economy. I hope to show you, therefore, that you can afford to rear your own queens to a very great extent after having purchased one or more breeding queens, or having selected something from your own stock which shows an unquestioned superiority over other stock in the yard.

The business has been developed to a very pretty science. Indeed I know of nothing in all the realm of bee-culture that is more interesting or more fascinating than watching the baby queens develop into full-fledged mothers.

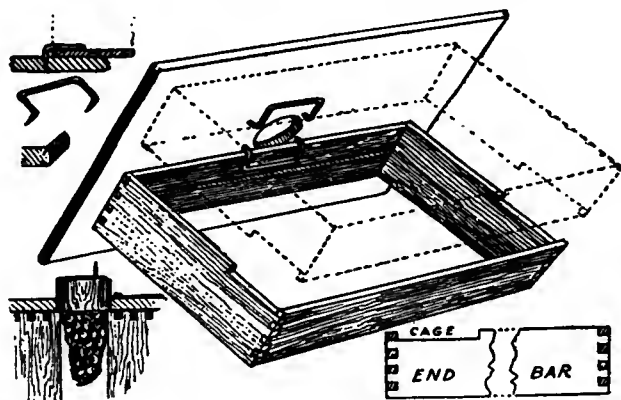
It will not be necessary for me to explain how queen-cells may be reared in wooden cell-cups in quantity, nor how the eggs of one or two breeding queens may be used for all the cell-building work. This part of the operation has been usually regarded as simple and easy; but the problem of getting the young hatched virgins *mated*—aye, there has been the rub. I desire to show you a method whereby even this part of the work can be accomplished simply and easily, and at a trifling expense in bees and brood.

Until within the last year or so, full-sized two and three frame nuclei using standard Langstroth frames have been employed for mating the virgins. To make such, it has been necessary to break up a good many otherwise strong colonies for honey-production. As a general rule, only three or four nuclei could be made out of one colony. This made the question of mating somewhat expensive. Mr. Pratt, Mr. Laws, and others who have worked at this problem, have now demonstrated that a small teacupful of bees and one or two sections of comb will serve as good a purpose as a large nucleus, with the added advantage that the queens can be found instantly.

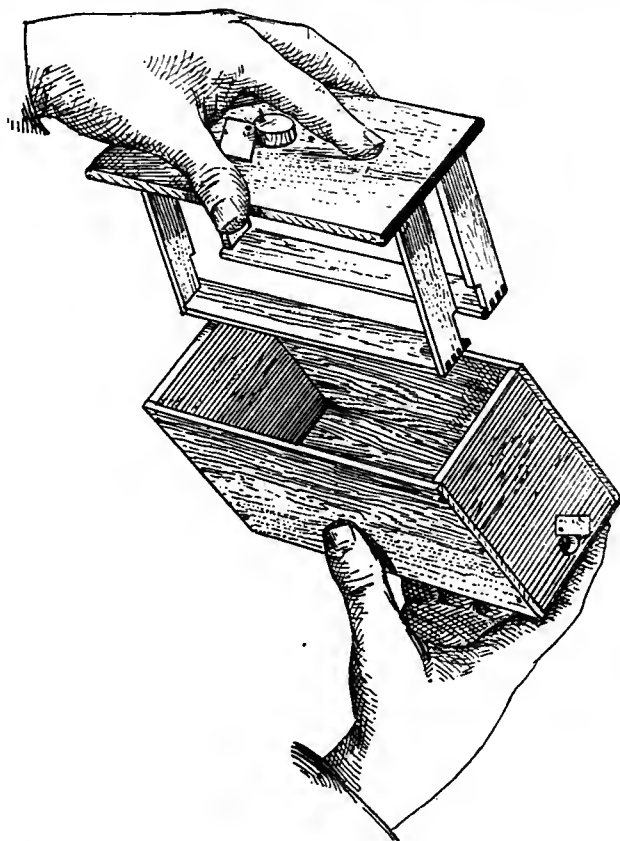
I hold in my hand here one of Mr. Pratt's "baby" nucleus-boxes. As you will see, it is a miniature hive made of quarter-inch stuff with a small flight-hole in front. This has a tin slide on the outside so that the hole can be closed, and a perforated zinc slide on the inside. This latter can be revolved around, holding the queen after she is mated. The little frames, as you will note, are secured to the cover, having no ears nor projections. They are not made permanently fast, but are secured by a staple bent at right angles, folded over against the top-bar. When these little frames are filled with comb and bees, the cover is turned bottom up, leaving the frames standing upright. If the queens or the eggs are not discovered on the two outside surfaces of the combs, a sliding twist will remove one of the frames so that its inside surface, as well as the inside surface of the other comb, can be readily seen. If the queen is laying, the fact can be noted at a glance. If she is to be caged and sent out through the mails she can be located without hunting. We have gone so far as to take every bee in the box and put it in the mailing-

cage with the queen. In cases of this kind we supply the box with fresh bees in the manner I shall presently explain.

To get these little "baby" frames filled with comb, we



make them of just the right size so that six of them will fit in a standard Langstroth frame, a good deal as eight sections used to be inserted in the old-style wide-frame. Each of

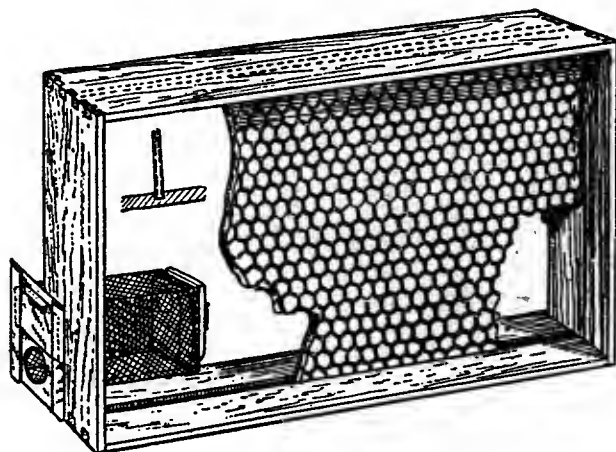


these little frames is supplied with foundation, and the whole six in one frame is set down in the center of a strong colony. In a few hours the comb will be drawn out, and will contain

some honey if honey is coming in, as well as, possibly, a few eggs.

We have a good many of these frames, each containing six small frames, scattered through the yard so that we can get freshly sealed combs whenever we need them for the "babies," for that is what we call these miniature nuclei.

Now, then, how do we supply these little boxes with bees? We prepare a lot of them, say a dozen or so, with combs all ready for the bees. We next go to some good colony and shake all the bees into a box, having previously smoked them in order to make them quiet, and to get them to gorge themselves with honey. This box of combless bees, after giving the brood to other colonies, is then carried to a shady place where we have the prepared miniature nuclei. The box of bees before scooping up is given a bump in order to get them into a heap. The cover is removed, and with a

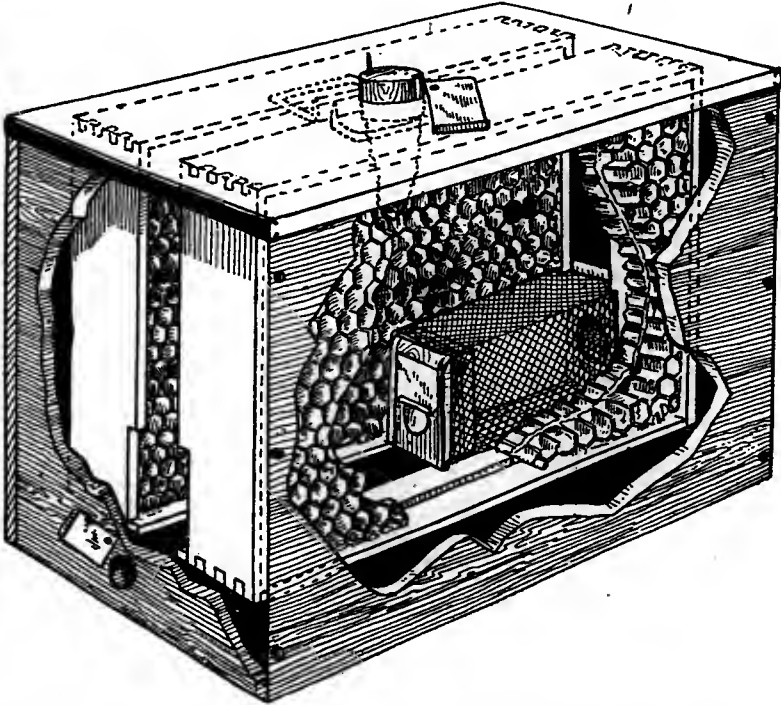


tea-cup we scoop up one or two hundred bees and dump the teacupful into one of the baby boxes, when the cover with its combs is set down in place, thus confining them. In a like manner the other babies are supplied. Of course, the entrances are kept closed. Having supplied all the bees, we can now give each through the hole in the cover a queen-cell built on one of these wooden cell-cups; or in 24 hours after the bees have come to know their utter queenlessness we may run in a young virgin.

We can now distribute these baby boxes around in different parts of the yard; but it is usually advisable to carry them to an outyard or to some isolated locality where there may be one or two hives with a large pre-dominance of selected drones. The queens are allowed to fly at this yard and become mated, when they are brought home and kept for supplying queenless colonies or to fill any orders that one may have; for these little boxes of bees will hold their queens for a considerable length of time. It may be necessary to "repeople" these boxes, for Mr. Laws says these clusters sometimes get uneasy; but we have kept these same

little clusters going all summer, rearing their own brood, and working a good deal on the same plan as the ordinary strong colonies.

I wish to call attention to the fact that one can almost



control the male parentage of his bees by selecting some locality where there are no bees, and keeping there a few hives of select drones.



HOW PRATT FEEDS SYRUP TO THE
BABY NUCLEI.

BRICK HONEY.

"I show here a sample of "brick honey," or what has been appropriately called "honey butter." It is nothing more nor less than an oblong cake of candied honey hard enough to

hold its shape. It is wrapped in paraffin paper and then given other wrappings, or, better still, putting into a carton and properly labeling it on the outside. These bricks of candied honey are secured from the cans of alfalfa honey—the honey, of course, being granulated solid. The tin can is stripped off from the cake with a pair of tinner's snips. The block of honey is now put into a regular machine for cutting up butter into bricks. This consists of a cast-iron plate with four upright standards on which slides up and down a frame having two or more wires stretched tightly across it. These wires are forced *perpendicularly* down through the block of honey by a steady, even pressure. Another frame swung on one of the standards as an axis, carries another set of wires which cut the honey on a *horizontal* plane. When cut up, these bricks can then be taken off with a thin-bladed knife, placed on a piece of paraffin paper of suitable size, and wrapped.

We have developed quite a business in putting up brick honey at Medina and vicinity. It is now offered in some of the largest retail stores in Cleveland. Of late we have been calling it "honey butter;" and under that appropriate title it seems to take well with the general public. Our labels show how to liquefy, if preferred in that form, and also explain that pure honey, or nearly all of it, will turn to this solid state at the approach of, or during cool weather.

I believe this brick honey has a bright future, and that many of our honey-producers will find it a field well worth developing in their own localities. ERNEST R. ROOT.

Mr. Wheeler—Do you have any absconding?

Mr. Root—Very little. I expected that, but we had very little. Our early experiments indicated there would be more or less absconding but I do not think that will be the case.

Mr. Kimmey—I understand the advantage of taking that to an out-yard is to control the drones?

Mr. Root—That is all.

Mr. Meredith—Do you expect to put them on the market? If so, about what would the complete expense be?

Mr. Root—We are going to put them on the market. What the price will be I don't know. I am glad I don't. I don't think it would be proper for me to mention prices at this time.

Mr. Meredith—Will they be in your catalogue?

Mr. Root—In 1905.

Mr. Colburn—The queen-cell is sealed?

Mr. Root—Yes, what we call a "wrapped queen-cell."

Mr. Colburn—Would that be warm enough in severely cold nights?

Mr. Root—I couldn't say as to that. In our locality we had no difficulty from that. We had those cells hatch along in November. This cage is what we call the Titoff case. It is quite convenient for holding the cell.

Dr. Miller—With your indulgence, I would like to say if you want to try the plan of having queens fertilized with

baby nuclei, that you can do it without any arrangement of this kind at all, only just what you have at home. I reared a number of queens last year and had them fertilized. I followed Boston Smith's rule, "Do the best you can with what you have." I didn't have anything of that kind. I had an ordinary hive that I use every day, a dove-tailed hive. In that I put a wide frame that will hold four sections. In that I put one section of honey filled solid full of honey. Another frame beside it with a section of comb, no honey in it at all. It doesn't matter whether there is or not. I put those two in the hive. Had the hive closed up in front so that it would have only an entrance of one-quarter of an inch. Then I go to a hive, take out a frame of brood with the adhering bees and bring it to that hive. Then I tell my assistant to take that and pound off the bees and at the same time I drop a virgin queen in the bottom of the hive, quickly shut the thing up, and leave them fastened there for three days. Then open the entrance, and that is all. The bees do the rest.

Mr. McCain—After forming the little colony—the nucleus—how long does Mr. Root keep that closed before liberating the bees or the queen?

Mr. Root—That all depends upon whether you carry them to an out-apiary.

Mr. McCain—In the yard.

Mr. Root—Not less than three days. They will have to be shut up at least three days to get them so that they will get used to a new location. At the end of that time they will do very well. In the out-yard you can use them immediately.

Mr. Wheeler—Mr. Stanley is here. He rears queens and I have bought hundreds of them in the last year and he has a very unique and fine way of rearing them, and he will exhibit for you any time you want him to in the back room. He does not care to come before the assembly and speak; but there is one thing I can assure you he rears good, lively queens, and the bees take them, and they lay, and they are a good color. He is one of the largest bee-keepers in the State, I understand; he represents about 700 colonies. Such men as that are men that work as well as talk.

Pres. York—Has Mr. Stanley anything to say on this?

Mr. Stanley—No, not unless anyone wishes me to talk.

(Mr. Stanley was requested to explain his method of rearing queens.)

Pres. York—While Mr. Stanley is getting ready I think we may take up a question or two.

SHOOK-SWARMING.

"How many present think shook-swarming a preferable and practical method of management?"

Mr. Whitney—That would depend largely upon circumstances.

(Pres. York called for a show of hands on the question. The request was complied with.)

Pres. York—It would be preferable, I think. There were four I think who raised their hands.

Mr. Wilcox—How many have an opinion concerning the subject and know anything about it?

Pres. York—Do you mean how many have tried it?

Mr. Wilcox—Yes.

Pres. York—How many have tried shook-swarmer? Raise your hands. (About 10 responded.)

Pres. York—How many think it is preferable to all other methods. Raise your hand? (One responded.)

LAWS ON BEE-KEEPING.

"In what respect does the law of Cook County differ from the State laws relative to bee-keeping?"

Pres. York—Does anybody know of any different law in this county from any other county in the State?

Mr. Moore—There are no laws in Illinois except State laws which are applicable to every county in the State. There are no County laws.

Pres. York—Are there any ordinances in the City of Chicago relating to bees or bee-keeping?

Mr. Moore—There have been ordinances made in certain places in the State against keeping bees within certain limits.

Mr. Pease—We have in the ordinances of the City of Chicago, an ordinance that bee-keepers do not care to discuss very much, as a rule. It is still one of the ordinances. It is to this effect, prohibiting the keeping of bees within 200 feet of a public highway or alley. That ordinance is still in effect although it has never been enforced. There has been no litigation on the subject whatever. There has been considerable controversy among some of the bee-keepers of Cook County to have that ordinance repealed. As to the legality of it, it is a question as to whether it would be sustained or not. It is in a measure conflicting with the State Laws as being rather class legislation, and there has been a strong inclination on the part of many of the bee-keepers of Cook County to have that ordinance repealed. Philadelphia had a similar ordinance which was taken into Court and contested and carried to the Supreme Court of the State and there found unconstitutional. I suppose that is what is referred to by this question.

Mr. Moore—I am certainly instructed by the gentleman's authority, which I take for granted is correct, that there is an ordinance in Chicago on keeping bees within certain limits, but it has given us so little trouble that we didn't know there was such a thing. It would take \$500 or \$1,000 to wipe it off the statute book. No legislation of that sort is going to give us any trouble either now or in the future, judging by the amount of bother it has been in the past; it might as well stay there, as there has been no attempt made to enforce it.

Mr. Abbott—I am not a lawyer, but whenever there is any specification regarding keeping bees a certain distance from any place I pay no attention to it whatever. It cannot be enforced in any State in this Union. That belongs to the

common principles of law that underlie all law. Every law must be specific and must apply specifically to all the people engaged in that industry.

Mr. Kimmey—Suppose you lived next door to a church and should insist on keeping a row of bee-hives right along side of the church, don't you think there is power in the municipal power of a city to control that matter?

Mr. Moore—This matter has been threshed over at very great length. The law of nuisances covers a great many of these things. There is such a thing as a public and a private nuisance. No man would claim that keeping a cow was a nuisance, but in a city where people live close together you can keep a horse or a cow in such a way as to become a nuisance. It may be a private nuisance, it may be a public nuisance. The whole neighborhood is interested in having it abated, in which case there is appropriate remedy. Keeping bees or chickens is not a nuisance, but they may be kept in such a way as to become an awful nuisance. Then there is a remedy for the people aggrieved, at law.

Mr. Kimmey—Don't you think there is a remedy with the authorities. Has the pastor of a church got to go to law? Why can't he ask that there shall be a reasonable ordinance passed to control those things?

Mr. Moore—It is not necessary to pass an ordinance. If the church authorities are agreed, the church authorities as a corporation can maintain an action for specific nuisance.

Mr. Kimmey—Your argument would abolish all law. I don't believe that we should take the high and lofty position that we can keep bees wherever we please, regardless of everybody and anybody. When we do I believe we will find ourselves subject to municipal legislation under the police power granted by the State of all municipal corporations.

Mr. Moore—If the Legislature or if municipal corporations attempted to make laws to govern everything, pretty soon they would be making laws telling you to have your picket fence so high, to keep your next neighbor's chickens out.

Mr. Kimmey—They do that very thing right here in the city of Chicago.

Mr. Moore—There are a whole lot of things that must be governed by common sense, and they have attempted to make general laws to remedy specific cases of grievance. There is always a law for specific grievance.

Mr. Stanley being now ready to explain his method of queen-rearing, the subject was taken up.

STANLEY METHOD OF QUEEN-REARING.

Mr. Stanley—I have a frame of queen-cells here.

Dr. Miller—How do you get those queen-cells started?

Mr. Stanley—Started as they are now? Do you mean grafted?

Dr. Miller—Yes.

Mr. Stanley—They are started with royal jelly and then the larva is grafted in. I made these myself.

Mr. McCain—Are those the ordinary Doolittle cups?

Mr. Stanley—No. This is a frame showing complete cells, some of them hatched and some of them not. At this stage that should be removed (indicating).

Mr. Kimmey—What would I do with those if I had them?

Mr. Stanley—If you wanted to save the queen I suppose you would put it in a cage until she hatched and then you could make use of it by putting it in a nucleus, the full colony.

Mr. Moore—Before these hatch you cover them with some kind of a metal cover.

Mr. Stanley—Yes. In introducing the cage it is supplied with a candy to liberate the queen at any time. They are kept warm with the heat of the colony in full colonies or nucleus.

Dr. Miller—Right down in the colonies?

Mr. Stanley—Yes; they are put right between brood-combs, one, two, three or four colonies.

Dr. Miller—I wish you could all see closely the beautiful workmanship of all of this. Mr. Stanley is a wonder as a mechanic. His work is beautiful.

Mr. Whitney—Do you mean to say that you can introduce a queen to a colony in one of those protectors—that is, a laying queen, and the bees not kill the queen?

Mr. Stanley—Yes, I can introduce a virgin queen into a colony and have the laying queen caged.

Mr. Whitney—With room for the bees to go in and out at pleasure?

Mr. Stanley—Yes, the bees can go in and out and feed their laying queen. Have your laying queen caged, and the virgin queen at liberty on the combs.

Dr. Miller—Would it do if there were a laying queen at liberty in the hive?

Mr. Stanley—You couldn't liberate the virgins. You might lose your virgin and you might lose your life.

Mr. McCain—In regard to fertilizing. You have quite a number of cells there. What is your method of getting the queens fertilized?

Mr. Stanley—I use a three-frame nucleus, standard size frame. I have tried the small one. I have had some failure and some success.

Mr. McCain—Do you introduce the virgins one at a time?

Mr. Stanley—One at a time.

Mr. Kannenberg—How long can you keep the queens after they are hatched in those cells you have there?

Mr. Stanley—I have kept one 34 days to see how long I could keep them.

Mr. Kannenberg—Without any honey? The bees will feed them?

Mr. Stanley—Yes.

Mr. Wheeler—Could you introduce them after that time?

Mr. Stanley—Yes.

Mr. Whitney—Could you introduce that virgin queen into the center of the hive where there is a laying queen, and not have any of these virgin queens killed?

Mr. Stanley—Yes; they can be cared for in the colony with the laying queen.

Mr. Moore—They simply can't get at them.

Mr. Stanley—Certainly.

Mr. Moore—They are protected by the zinc.

Mr. Whitney—The question is about the bees killing them.

Mr. Stanley—I haven't had any trouble with the bees killing them.

Mr. Wheeler—Do they ever attempt to ball them?

Mr. Stanley—No, I have never had any trouble with balling.

Mr. Wilcox—Would it not be better, in introducing them into a hive, to put them in an upper story with a queen-excluding honey-board?

Mr. Stanley—If there are bees enough it would be just as well; all they require is to be kept warm.

Mr. Wilcox—You supply them with food?

Mr. Stanley—You don't need to supply them; the bees feed them.

Mr. Wilcox—The bees will not feed the virgin queen?

Mr. Stanley—Yes, the bees feed the virgin queens while they have a laying queen in the hive. There probably are cases where they will not, but it can be brought about so that they will.

Mr. Wilcox—I have very often slipped a virgin queen in the hive with a laying queen, and found her dead afterwards. I thought they killed her or starved her to death.

RE-INTRODUCING A BALLED QUEEN.

"When a laying queen is balled in introducing, what method should be adopted to introduce her again to the same colony?"

Mr. Whitney—That comes directly in line with some practice I had a year ago, although I didn't ask that question. I introduced the queen to a queenless colony for a young lady who bought a colony of bees from me, and the next day or two afterwards she wanted to see whether that queen was accepted or not. She found they had eaten out the candy and the queen was liberated. I told her there was a little danger in opening that hive so soon, but if she cared to have me do it I would try to do so. I opened the hive and I didn't find the queen—I gave them a little smoke—I was afraid perhaps they had killed her. The young lady looked down into the hive at the bottom and she said, "Mr. Whitney, what is the matter?" I looked in and I said, "There they are balling that queen as sure as you are alive." I put my hand down and took that ball of bees out and shook them

and there that queen was and they hadn't hurt her. I re-caged her and put her back and left it till the next morning, when I pulled the plug out and in three or four days the queen was all right.

Dr. Miller—There is just one part that might be added to what Mr. Whitney has said. He says that he introduced that queen the second time in the morning.

Mr. Whitney—No; I introduced her immediately.

Dr. Miller—About what time was it?

Mr. Whitney—About the middle of the day it was that we looked, and I introduced her again, but plugged up the cage so that she couldn't get out, and left her there over the frame till the next morning, and then carefully removed the frame and didn't disturb the bees at all.

Dr. Miller—That is the point—if you free her at a time when the bees are likely to be troublesome, in the morning. Any other time in the day you will not be quite so safe as if you free her just at night when there will be no chance for robbers or foreign bees to get in. In this case it is the queen with which you have had trouble, and you want to take more than ordinary care. So take the additional precaution to liberate her at night and you will be safe.

Mr. Wilcox—I thought perhaps there might be a word more said in regard to the manner of picking up that queen in the ball. He said he picked it up with his fingers and put it in the cage.

Mr. Whitney—No; I scooped the whole ball of bees up from the bottom of the hive with my hand and shook them out and the bees were very much surprised.

Mr. Wilcox—Sometimes a bee-keeper is, too! I could recommend those that are very timid to use a little table spoon and pick up the ball and throw it into some water.

Mr. McCain—In regard to the ball of bees, I would like to ask if it is a dangerous or unwise thing to smoke the ball.

Dr. Miller—Yes, and no. I take the smoke and I will warrant that one way I use it they will kill the queen, and another way I use it they will not hurt the queen. Hold the smoker off far enough so that the cold smoke comes upon them, and they will leave it about the same as they will when you throw them into the water. Get some bees in your fingers and hold the smoker up so that the smoke will be hot and see if you don't get stung. You will be sure to kill the queen if you blow hot smoke on it.

Mr. Kimmey—I don't know anything about these matters, but I have had just a little experience. I got a queen, and found after she was liberated the bees had balled the queen in the bottom of the hive, and I picked it up and laid it on top of the frames and moved it a little, and it never occurred to me that they would sting me; and the queen flew away and I thought, "Well, surely she has gone." But I waited about an hour, or something like that, and I looked again and I found the queen back, balled in the bottom of the hive. I simply picked it up, from my previous experience, and

carried it into a little building in my hands and then caged it there. I had a caged queen and the colony without any queen which I wanted to get that queen into. I didn't know what to do. I went back and hunted up all the old bee-papers I could find to get some information on the question. I don't know just what paper it was in, but it said to smear the bee with a honey and water mixture and throw it in the hive and it would be all right. I thought, "Here is a desperate case and I don't know what to do." I tried it and it succeeded, and that is all I know about it. I simply smeared the queen with that mixture and poured a teacupful right down between two frames and let the bees in, and it went on and made a good colony.

Dr. Miller—It may succeed next time, but maybe it won't.

Mr. Dadant—I think there is a great deal less danger than some people would think of bees stinging when they have balled a queen. I have never had patience to go after a pail of water to throw the bees into. We have found the bees ball and I was in too much of a hurry to release her to do anything like that and I never got stung. They are rubbing against one another and expect to be rubbed, and their stings will not hurt one another; they will hardly hurt your fingers. Our way to do it is to do it promptly.

Mr. Abbott—I would like to ask these gentlemen what they have queens balled for? I wouldn't think anything more about putting a queen into a hive and not having her balled than I would about picking a frame out. I think a bee-keeper hasn't learned his business that has them balled.

Mr. Whitney—If she were balled what would you do?

Mr. Abbott—She won't be. You might just as well ask me if my wife left me what would I do. She won't leave.

Mr. Kimmey—I would like to know what I did wrong. I simply put the cage in the hive and left it there, I believe, about 42 hours and found her balled in the bottom of the hive.

Dr. Miller—May I be allowed to interrupt and cut this matter short by asking that Mr. Abbott shall tell us what he can do so that there are never any balled queens or queens balled.

Mr. Whitney—Perhaps I can answer the question for Mr. Abbott. I don't believe he keeps any bees! [Laughter.]

Mr. Abbott—I used to have about 200 colonies when I was handling queens, but the question with me was, How your colony came to be queenless?

Dr. Miller—That is not the question. The question is, How does he do that he never has any queens balled?

Mr. Abbott—In the first place I don't have queenless colonies to begin with, when I want to introduce a queen.

Mr. Kannenberg—I had a colony of bees I wanted to Italianize. I got the queen out about two days before, and I left it queenless for two or three days. Then I looked to see when I put the queen in if there was—

Mr. Abbott—You followed the instructions of the bee-

books and journals; you shouldn't have done anything of the kind. The way to introduce a queen is not to kill the old queen to start with. The way to do is to leave the old queen in the hive; don't interfere with her at all. When you get your cage with the new queen, uncover the wire so that the bees in the cage can get at the bees inside of it, and get at the queen if they want to. Leave it there at least 48 hours, then catch the old queen and kill it, and uncover the candy and cover up your hive as quick as you can. Just as soon as you find the queen and kill it don't spend another moment's time but get the frames back in as quickly as possible; uncover the candy, cover up the hive and go about your business, and pay no attention to them for two or three days; and when you go back you will find the queen laying every time, and never have one balled. If you kill the old queen according to the instructions in all the books, in nine cases out of ten you will have trouble and have them balled.

Dr. Miller—I have had queens balled a good many times when there was but one queen in the hive and none other had ever been in; they balled their own queen.

Mr. Dadant—There are many cases in which we have balled queens. I have seen hundreds of instances. I have had two swarms come out and each of the two queens balled because some of the bees of the other swarm were with that queen. I have had queens that I was about to introduce, balled before I had any time to do anything with them. I have seen young queens balled in the hive. Those things are accidents that happen in the bee-business, and the best of us cannot avoid them.

Mr. Root—I would like to agree with both gentlemen, but I think Mr. Dadant is exactly right. I also agree with Mr. Abbott on his method of introducing queens. We have been trying that all the past summer and the plan is all right. Leave the old queen in the hive until you are ready to release the new queen. We have been doing it with our virgin and laying queens and it works better than it worked the other way. But the "A B C of Bee Culture" has been changed, Mr. Abbott, and our directions are changed to cover that. We introduce our virgins; we have three or four in a hive at a time, and we also have a laying queen. As those virgin queens begin to lay we take out the laying queen and leave the other in the hive, and when the other begins to lay we take her out. I think there is one point that has been dropped, and that is this question of scent of the bees. At the University of Pennsylvania I spent some three months a year ago last summer, and after working a long time at this problem the intention was to consider some problem of introducing. I remember Mr. Abbott had been trying to pound that thing into us, and we didn't believe it—

Mr. Abbott—For twenty years. [Laughter.]

Mr. Root—And Dr. Phillips takes the ground—and he has been studying this question very carefully—that this question of introduction depends almost entirely on the scent of the bees. If the bees are balled, and you handle that ball

in your hand and get that queen in your fingers, the chances are that they will ball up again because that scent has been changed. The bee's sense of smell is very acute. If the scent is changed a little bit the conditions are different. They recognize her somewhat as a stranger. I have had queens balled in our yard. By picking up the queen and showing her to visitors and dropping her back, they will ball her. Sometimes a disturbance in the hive will cause them to ball her. But this question of scent plays a more important part in it than we bee-keepers have been in the habit of thinking. If she has the same scent as the rest of the bees she will be accepted. A little while ago Mr. Stanley spoke about putting virgin queens in a hive where there is a laying queen. If they have the scent of the rest of the bees the bees won't tackle them, but if the laying mother can get at those then there will be war.

Mr. Smith—Why do bees ball their queens? In my experience I find that there are two motives, one is to protect them and another is to kill them. I will illustrate: I had an Italian second swarm and a black swarm go together, and both queens were balled. The yellow queen was balled with her own bees; the blacks also balled their own queen. I liberated them and neither one was hurt. I introduced the black queen and she flew away. I introduced the yellow queen and shook the bees all out on the ground, and dropped her in among the bees as they went to the hive. She was introduced that way perfectly safe. The black queen came back and lit on the outside, and the yellow bees killed her. In the first place they had balled their own queen, which I think was for protection.

Mr. Abbott—I want to say I didn't mean my remarks to apply to these abnormal conditions of two swarms going together or anything of that kind. I want to be rightly understood. I just let them go together and let them fight it out. I don't fool with them.

Mr. Smith—If you alarm a colony they will sometimes ball their queen. That is to protect the queen.

Mr. Root—Shut the hive up and they will be all right.

DISPENSING WITH THE BEE-VEIL.

"Generally speaking, can the bee-veil be dispensed with? How many think it can?"

Mr. Smith I would like to see a man go through 40 or 50 colonies in the honey season without a bee-veil.

Mr. Dadant—There are a few gentlemen here that get along without bee-veils but if they wanted to follow some of us all day among the bees and not flinch, stay right with it, they will wish they had a bee-veil, unless they are absolutely proof against the sting, and there are very few that are. When you have a bee-veil you don't have to wear it all the time, but you have it at hand so that you can wear it if you have to.

Mr. Miller—I may say in regard to that, that there are

men who do not use a bee-veil at all. There was one of them went in one of my apiaries; he went around with me with a smoker and he said, "They will never sting me; there is no need for me to wear a veil." And he kept that smoke going all the while, so I couldn't have any use of the smoker. I won't give you the man's name because I am afraid it might hurt the feelings of his son Ernest. [Laughter.]

Mr. Whitney—There was a friend of mine who said he didn't need a veil. He was extracting a great deal of honey. He sold the honey around through the community. I didn't know anything about bees then, and he invited me into the yard where he was taking off some frames; and he said, "They never sting an honest man." I went in and stood around the hive and pretty soon a bee struck him right over the mouth. I said, "I guess you're right." [Laughter.]

Mr. Moore—If any one really wants to handle bees without a veil he can do it. I have been engaged in marketing honey in Chicago, and for the sake of advertising I have done a great many outlandish things. I have attempted to go into my own hives and other peoples' without the bee-veil. The past summer I didn't carry a veil with me except on one or two days. I opened the hive without smoke. But I want to tell you right now, I got stung on one occasion twelve or fifteen times because not wearing a veil. If you are so patriotic, all right; but as a rule it pays to have a veil.

Mr. Whitney—A friend of mine in Ohio has been able to handle his bees without a veil for years. At one time he thought he would look into one hive and he took off the cover, and they came out. He backed up and held up his hands and they still came. He turned around and ran down the outside cellar-way and shut the trap-door, and he was stung so badly he fainted away and was sick for three weeks. Since then he hasn't been able to handle bees at all. A lady friend said, "I always use a veil; never go into the yard without one."

"SHOOK" OR "SHAKEN" SWARM.

"Is it better to say, "shook swarm" or "shaken swarm?"

Mr. Root—If Dr. Miller wasn't here I would say "shaken swarms," but in his presence I always say, "shook swarms."

Pres. York—I think we would better refer that to Mr. Hutchinson.

Mr. Hutchinson—I agree with Mr. Root on that question.

Dr. Miller—If that thing is entirely to spite me, I am going to say a word about it. I am very glad of an opportunity to say a word in favor of having people at large understand that bee-keepers are not a lot of ignoramuses. I have felt mortified at the use of that word as a violation of common English, that a teacher in any one of our public schools would know better than to countenance. If either of these good brethren who have such a vicious feeling towards me can give me any possible reason why the word "shook" is any better than the word "shaken," they can give me some-

thing I have never had yet. The word "shook" expresses something to me a little stronger than the word "shaken." When Mr. Root told me that, I knew that there was something that had shaken loose in his brain. If they have a seat reserved in one of these places, say in a concert, there will be laid down a little slip and on it marked, "Taken." Do you think I would feel any more secure of that seat if it was marked, "Took." [Laughter]. Now, I consider this, without any joking, of enough consequence that we should spend a little time upon it. If there is any reason why "shook" is better than "shaken" I would like to hear it. One is good English, the other is bad, and it seems to me that is enough to settle the question, unless you can give some other very strong reason.

Mr. Dadant—In regard to this matter I think there is a great deal in locality! [Laughter.] I am foreign born, but when some of our Western Americans took a trip to Europe I was with them, and I had occasion to say to an Englishman, "Hurry up," and he said, "I suppose you mean "make haste."

Mr. Whitney—When I saw the words "shook swarm" I thought the whole thing was wrong. What is a swarm? It is bees in the air or in cluster. Then you can't make a shook swarm or a shaken swarm. It is simply a colony of bees. You can't shake them or have them swarm in the air or cluster, so that it is not a swarm at all.

Mr. Wheeler—I would like to know of how much money value this is to us. We are here to learn something. I didn't leave my work to come here to listen to sport. I came here to learn something about bee-keeping. Now what does this have to do with bee-keeping?

Mr. Abbott—I used to teach school and they paid me \$50 a month for teaching their children the correct use of the English language. It must have had some value to me. But I disagree with Dr. Miller that the use of the word "shook" is not as correct as shaken." This is simply the invention of a new condition of things, and new conditions of things are creating words and phrases every day in America. I suppose I could mention 50 that have been created within the last few years. It is just as proper to apply "shook" to a new condition of things as "shaken;" and the words got into Dr. Miller's dictionary that way.

Pres. York—This is one of the questions for diversion. Now we will go on to something more solid.

Mr. Wheeler—We have editors, such as Mr. Hutchinson; leave such things to him. We don't want to spend our time here to-day on that. He will put that word in just as he pleases when he gets home, anyway.

ADVANTAGE OF SHOOK SWARMING.

"What is the advantage of shook swarming?"

Mr. Hutchinson—I suppose primarily that the principle advantage of this shook swarming is that we are able to have the work gone on with without being there to see to it. We

forestall swarming. We make preparations for the bees to swarm and we are not there to take care of them, so instead of that we go at it and shake them off and make the swarms while we are there to see to it.

Pres. York—What about joining the National in a body this year?

Dr. Miller—Moved, duly seconded, that this Association join the National in a body, at the rate of 50 cents a member.

Pres. York put the motion which, on a vote having been taken, was declared carried.

Dr. Miller—Right in connection with the point which is before us is the question of uniting with the State. If it is a proper thing to bring that up now I move that this Association, as a body, unite with the Illinois State Association, paying into its treasury 25 cents per member.

The motion was seconded.

Mr. Colburn—What is the present membership of the Illinois Society?

Mr. Smith—The present membership of the Illinois State Association is over 150.

Mr. Wilcox—How many bee-keepers' societies are there in the State of Illinois?

Mr. York—I think there are two besides this, outside of the State organization, that is, the Northern Illinois and the Western Illinois.

Mr. Whitney—I want to ask the Treasurer as to what effect taking 25 cents for each member joining the State would have upon our balance in the Treasury?

Mr. Moore—There would not be enough money left in the Treasury to support our Association if we paid out 75 cents on each dollar, that is, 50 cents to the National and 25 cents to the Illinois State. The actual expenditure for membership if this motion is passed, under our Constitution, will be about \$20 out of our treasury.

After a long discussion Pres. York put the motion that this Association join the Illinois State Association in a body by paying 25 cents a member, which, on a vote having been taken, was declared carried. The necessary amount to pay same was secured by passing the hat.

ELECTION OF OFFICERS.

The President appointed as tellers Messrs. Fluegge, Jacob and Dadant. Ballots were taken and the officers were all re-elected as follows: President, George W. York; Vice-President, Mrs. N. L. Stow; and Secretary-Treasurer, Herman F. Moore.

QUEEN'S WING AND LEG GROWING.

"Does a queen's wing ever grow again after being clipped?"

Dr. Miller—No.

Mr. Criggs—Does a queen's leg ever grow where a leg has been pulled out?

Dr. Miller—No.

Mr. Criggs—I was clipping a queen's wing one time with gloves on, and I didn't have a very steady hand, and in some way pulled off one of the large legs right to the bottom. I was sorry at the time, but I thought they had so much brood and eggs they could rear another queen. However, I kept close watch and they didn't rear another queen to take her place, but this queen in the course of another two weeks had another leg.

Mr. Wilcox—Did her progeny have a missing leg, too? [Laughter.]

Mr. Criggs—I didn't find any that did.

Dr. Miller—I would rather believe a clipped queen got into that hive from another hive than to believe the wings or leg would grow on again. That has sometimes happened. A clipped queen has gone from one hive into another.

Mr. Criggs—I should say not. This was a pure Italian queen and all the other queens within two rods were dark. I had only half a dozen Italian queens in the whole apiary of about 60 or 80 colonies; the rest were all dark bees.

Mr. Whitney—Was that a queen of your own rearing?

Mr. Criggs—No.

OUTDOOR WINTERING OF BEES.

"In outdoor wintering is water running out of the entrance of the hive an indication of poor wintering."

Mr. Wilcox—I should say not, but it indicates poor preparation for wintering. There ought to be absorption enough so that it wouldn't condense and accumulate.

Mr. Snell—That has been my experience. If the ventilation is proper, and the preparation is proper for wintering, there will be no water running out from the entrance.

STARTING WITH BEES.

"Tell a few good ways for beginners to get a start in bees and a first-class experience at one and the same time."

Dr. Miller—Buy a colony of bees, buy a bee-book, or several of them, and subscribe for a bee-paper, or several of them, and then go on and get your experience.

Pres. York—I noticed that the Doctor didn't say he could buy his experience, too.

Dr. Miller—He will buy it and pay for it.

EFFECT OF MARKET REPORTS ON HONEY PRICES.

"What effect has market reports on the price of honey?"

Mr. Burnett—I don't know that I ought to answer or endeavor to answer that question. I make some market reports. What effect it has, has to be problematic. I think, however, it is in general alignment with all other reports on prices. People are guided by what they find to be a price in a certain market. It gives you an idea of what goods can be obtained

for there. It is also a guide for those seeking a market. I should think it had a good deal to do as a matter of fact with the general business of the country.

Mr. Colburn—I am a resident of Chicago and I asked that question because I wanted to find out if there is any difference, or if it had any appreciable effect; and the reason I asked it is, I have been on South Water Street a good many times and I always found on enquiring there that the prices of honey were invariably greater than these market reports give us to understand. Why that is so I don't just know. I think I know the South Water Street houses pretty well. I was a grocer here in Chicago for a number of years and went all around the streets with my market wagon on every day in the summer, and every other day in the winter, and I found things down there were quite peculiar. This fall I examined up and down the street on one or two days and I found at that time five different firms reported honey as selling at 15 cents a pound in one-pound sections. At that time our market quotations—the nearest was within seven days—gave us prices at 12 to 14 cents. This is what I don't understand, and I want to understand it. Every bee-keeper within 300 miles of Chicago who sends his honey here, if he takes these papers, naturally is enquiring and looking at these reports, and these reports ought to be reasonably accurate. At the stock yards, with which I was familiar for a number of years, the market reports give the actual sales as they are. They don't say, "We quote so and so." They say, "Armour bought so and so, such and such a kind of stock, and it sold for so much." I think our market reports ought to be under the control of this Association, on account of the fact that there is such an apparent discrepancy between the reports in the papers and the actual condition on the street. We as individuals who are bee-keepers are interested in having prices at a reasonable figure, and we don't want any market reports which show the prices of honey to be less than it is generally sold at. Whether they are, or not, I can't say, but I think they are. In every investigation I have made I have invariably found a difference of one or two cents in the reported price of the honey from the price on the street. In the quotation from Milwaukee it is from one to two cents higher than the Chicago market, and yet Milwaukee is 200 miles nearer the great center of honey-production than we are. I brought this up because I think the bee-keepers will lose two cents a pound on every pound they send to Chicago unless they get straight market reports.

Mr. Wilcox—The question is, What effect do market reports have on the honey market? If they be timely and truthful they tend to steady the market, to prevent fluctuations, and are highly profitable to all.

Mr. Moore—There isn't any use in allowing any prejudice to enter into the discussion of these questions. I know a good many people think that all lawyers are thieves, and all commission men in the same class. They are very much like the rest of us; they are all honest and all dishonest. But

according to Mr. Colburn's own statement there is no discrepancy. He said the market report gave 12 to 14 cents. Twelve meant the lower grade, 14 meant the highest grade. Understand that those quotations mean some considerable sale. You go along and ask a man what is the price and he says 15 cents. He thinks, to look at you at first, you are a suburbanite, come to carry honey home under your arm. If you say, "Here, I want five or ten cases," he gives it at 14 cents, according to the quotation that you say was quoted. There are different circumstances. Quantity and quality of purchase make a difference as to quotations, as you state it, and are fair.

Mr. Burnett—As to difference, I would like to have him change the word invariable to variable. It seems to me it is hardly fair that it should be invariably higher than the quotations. As a matter of fact we all know that is not the fact. That buying honey, as he buys it—perhaps he met a man who buys from the receivers. The majority of the houses on South Water Street that sell honey in a small way or keep a few cases, buy it from some of the receivers, and they need to get a cent a pound as a margin over and above what they pay. The purpose, as I have understood for many years, of market reports, is to give as nearly as may be the actual value of honey sold as received. A lot of honey sold consisting of 25 or 100 or 1,000 cases is the price that the purchaser must be guided by. Allow him to send the honey here and get a cent a pound less than the quotations are for that grade of honey, he feels that he has not had the market value for it. So that it is not fair to any one to say that it is invariably so, but that it does vary is a fact.

Mr. Fluegge—I find the market quotations in Chicago given out as nearly correct as they possibly can be. I visited a number of grocery men and they informed me that the prices they paid for first-class honey were 14 cents a pound, and that is comb honey. That is what the quotations are now. I have been watching it for several years and there is very little difference between what the grocery men say and what the quotations are, so I think they are as nearly correct as we can get them from that standpoint.

HORIZONTAL WIRING OF COMB-FOUNDATION.

"Can brood-frames filled with full sheets of foundation be wired horizontally in a manner that will prevent buckling?"

Mr. Dadant—If we wire foundation at all, I believe as a general thing those who do wire put their first wire too low. The weight is at the top—the pull is on the top story; the cells are nearest to the top of the frame and the first wire should be put very close to the top, within an inch. When you come to the bottom of the frame, those who have handled foundation for years, know that those cells are hardly ever stretched, and there is no need of wiring below the middle of the frame. If you put one wire at the middle and the other

two above, you will have better success than if you put the wires within your space in the frame.

Dr. Miller—I would like to ask Mr. Dadant a question I think germane to the subject. In those, do you suppose that the wires are taut or slack?

Mr. Dadant—It would be better for the wires to be taut if they are pressed into the foundation. A slack wire is only supposed to follow the wax if it settles. The great trouble is giving it to swarms. When full sheets of foundation are given they sag at once before it is finished; that is the time when it is really more of a strain upon it than is natural with the comb, because bees build their combs entirely at the top before they lengthen them, but when you give them a full sheet they will load it from the bottom, and the top has a greater strain upon it, and I think nearly all the strain takes place from that. I think the wire ought to be taut, but in a great many cases it is not necessary at all if it is carefully done to wire.

SIZE OF COLONIES OF BEES IN SPRING.

“How much brood, honey and bees should there be in a hive in the time of fruit-bloom before putting on supers?”

Mr. Wilcox—I am confident that the answer to that will vary according to the locality somewhat. For my part I never put supers on during fruit-bloom. Then, the quantity of bees cuts no figure. If there is not surplus enough coming in our locality at that time to make a decent start, I always divide them, if they are strong enough to bear dividing without being weak colonies, when clover opens in the middle of June. Fruit-bloom is in the middle of May, and if there are two bushels of bees I would divide them; if there was one bushel I would divide them; if there were 10 pounds of live bees I would divide them and give the other half a young queen, but I would build them both up for the honey harvest the first of July or the latter part of June. Our best honey-yield comes in August, from wild flowers. Consequently I would be sure, anyway, to have more bees to gather more honey later in the season.

PREVENTION OF ROBBING DURING A HONEY-FLOW.

“What can be done to prevent bees from robbing in the honey-flow season?”

Mr. Hutchinson—You couldn't make them rob them.

Dr. Miller—They can rob. The way to stop them is to take away the fool bee-keeper that gets them to rob.

Pres. York—He ought to be clipped!

EXTRACTING FROM COMBS HAVING BROOD.

“Will extracting from combs containing unsealed brood injure the quality of the honey provided no brood is thrown out?”

Mr. Wilcox—No.

Mr. Burnett—A gentleman here has the idea with regard to that brood, that it has a tendency to sour the honey. If there is any such thing it is important. It may be one of those things that is an unknown quantity to us. We often find in a consignment of honey, there are one or two packages that will ferment, and the rest show no tendency to do so. As dealers, and finding so many instances of that kind, we are quite at a loss to know what is the cause of it.

Dr. Miller—I should say yes to that question; if you had obliged me to say yes or no just at first blush I should have said no, but thinking more carefully over it I should say yes, because if you put brood-frames—and by that we generally understand combs containing brood—into an extractor you most surely will have unripe honey in that, and when you throw unripe honey out you are likely to injure the quality of your honey, and that may account for the kind of honey that Mr. Burnett is talking about.

Mr. Wilcox—I think it is terrible to throw out unripe honey, but it does not follow just as he expressed it, surely.

Dr. Miller—Almost surely.

Mr. Dadant—I have had considerable experience in the matter of extracting honey. I must say, in the first place, it is not advisable to extract honey from combs containing young brood; and in the second place I believe Dr. Miller is right; if you do that you are extracting in the beginning of the season and you will have thin honey. If you extract at the end of the season from brood-combs that contain brood and sealed honey the brood will likely be sealed also. Therefore it is unlikely that the bee-keeper who wants good honey will extract from brood-combs containing unsealed honey. If it contains any he can throw it out without throwing any brood out. Those who are expert enough can make it in such a manner that it moved the larvæ a little forward when it was extracted and this larvæ could work back after the comb was taken back to the hive, or the bees would take them back, and yet none of them were thrown out. But you don't want a careless boy to turn the extractor, because a little too fast whirling will throw the brood out, and then you have a chance for fermentation. Although, I believe very ripe honey will not ferment even if it has brood in it. The ancients tell us they used to preserve bodies in honey, showing that honey will keep things from rotting. I believe that bees and larvæ will be preserved in the honey if the honey is ripe, but if the honey is unripe it will be sure to ferment, whether you have dead larvæ in it or not.

Mr. Wheeler—I have had a suspicion of that thing for quite a number of years, and the more I have watched it and studied it, the more I have made up my mind there is a great deal in it. You not only throw out the honey, but the food that is given to the bees, that sours the larvæ. One has to be very careful in extracting. Another point Mr. Dadant makes about the honey season being

at a close; we don't have such a thing around Chicago where there is sweet clover; honey is gathered so that they can continue to breed and have young bees at all times. If you extract from those combs that have brood in you must have young larvæ. And then those young bees have a liquid: they are floating in a liquid. If that liquid is thrown out it is my impression it floats on top of the honey and it sours and gives the smell of sourness to the whole dish of honey. Yet I believe the honey down underneath is just as sweet as it ever was.

Mr. Wilcox—You don't believe that is thrown out without throwing out some brood?

Mr. Wheeler—That is immaterial. We do throw out the brood. I think you throw out some of that liquid when you don't throw out the brood.

QUEENS KILLED WHEN INTRODUCING.

"I introduced a queen into a queenless colony and they killed her; four days afterwards I introduced another queen and they killed her. What should I have done?"

Mr. Wheeler—I would say, put healthy young bees into the hive to kill any drone-layers. They would prepare the way for the queen every time.

Mr. Swift—I had the crossest lot of bees I ever ran across in my life; I couldn't get the queen into that hive; I tried three different queens. I gave it up. I kept them supplied with young bees all the time.

Mr. Snell—The best way is to introduce two frames of young bees into the parent colony, and at the same time put their queen in with them, or introduce a queen at that time. Those bees seem to destroy the laying worker so that the queen is never molested. I have never yet had a failure in that way.

DETECTING ADULTERATION IN BEESWAX.

"How can we detect foreign substance in beeswax?"

Mr. Dittmer—I don't know that I can give any rule. It is force of habit with me. I get wax sometimes, and it looks suspicious, and there is generally something the matter with it. The most common thing that occurs with me is receiving wax that contains tallow. In fact, some people have shipped wax to me and were rather rash about it, so that I think almost anybody could have detected it; but as to giving any chemical process, I can't say anything about it.

Mr. Abbott—I see Dr. Wiley has written another letter to explain the matter with regard to what is called the "Wiley lie," published in the Rural New Yorker. I was writing an editorial note on it before I left, for the Modern Farmer, and I used a sentence at the last of it that these comb-foundation people will be interested in, and these bee-keepers. Dr. Wiley says that paraffin is

used wholly or in part in comb-foundation in the United States. This statement came from Canada a short time ago, and now it is repeated by the chief chemist of the United States, and I say in my editorial there are only a few manufacturers of comb foundation in the United States. If they put paraffin in wax they know it, and we want to know it. If they don't do it, it will not be a very hard thing for them to prove it. If they do do it, it will be a very easy thing for the United States' chemists to prove. Now this subject of foundation is up, I think it would be a good time to hear from the comb-foundation makers right now as to what they have to say in answer to Dr. Wiley. I have had my say in the paper, and it will appear in the next issue, and I want to know if they put paraffin in foundation.

Mr. Dadant—I will give you three methods by which you can all detect, without chemical analysis, whether comb foundation is pure or not, and you can test it with your own beeswax, comparatively. The first test we have is the **HEAT TEST**. It is the most delicate because you have to get the exact heat at the exact spot. Foundation is a little more brittle, a little more in pieces than solid beeswax. Therefore you will heat the foundation more readily than beeswax. A lump of beeswax that is round or large will not heat so readily through as sheet foundation full of holes. Therefore you must expect your foundation to melt a little more readily. Between 135 and 150 is the temperature, but your thermometers may vary a little. You take a piece of beeswax, tie it to the thermometer, take it to the right spot, put it in a pint bottle, put the stopper in it, put it on the stove, and see at what degree that thin beeswax melts. Do the same with the sheet foundation, and see whether it melts at the same or about the same temperature. Another test is the **SAPONIFICATION TEST**. That is the changing of beeswax into soap; it will change to soap as grease will. It is no longer beeswax. Take lye and heat it, and take beeswax and melt it, and pour the two together and it will no longer be beeswax; if it is paraffin it will be paraffin. The paraffin will pour out just the same as before. The paraffin is a mineral substance which is not at all touched by lye, while beeswax is absolutely dissolved by lye.

The third test is **SPECIFIC GRAVITY**. Beeswax is heavier or lighter than other substances of the same kind. That is another very fine test, because if there is a little bulb of air in your specimen, whether beeswax or foundation, you will change the specific gravity. It is very difficult to make that test, but you can. A specimen that has a great deal of paraffin of one kind will flow where beeswax would go with the foundation. The way to do is this: Take water and put pure beeswax into it. Pour in alcohol until the beeswax goes to the bottom. The beeswax is then heavier than the solution which you have of water and alcohol. Then you are ready to test any samples

that may come to you. In this particular it is the same thing as before. If your foundation is full of holes, when you put it under, the air will be in those and hold it up. You have to be very particular to have the wax from your foundation the same as your beeswax, if you want to make a proper test. If you have a sample of paraffin it will float, while the beeswax will go to the bottom.

Mr. Dittmer—It seems to me that the statement that Mr. Abbott has made, as to what Prof. Wiley said, puts the comb-foundation manufacturers in the position of being guilty unless they are proved innocent. It seems to me that is rather a poor predicament to find one's self in. Personally, I am perfectly satisfied that neither the Dadants nor the Roots use anything but what they know to be pure beeswax. So far as I am concerned, I think that my reputation with those who have used my foundation will carry me through. I think that the foundation manufacturers of this country have always had the reputation of using nothing but what they honestly knew to be pure beeswax; and as to taking the position of proving ourselves innocent, it seems to me that is the wrong position. We should be first proved guilty, and then give us a chance of saying something. But this idea of considering a man guilty until he proves himself innocent is wrong.

Dr. Miller—In Europe there are perhaps some 17,000 or more of the Rietsche presses in use; a large number of the bee-keepers making their own foundation. In this country I think there are not nearly so many bee-keepers making their own foundation as there were 25 years ago. I think the reason that so many of those Rietsche presses are used in Europe, and that the making of foundation has been simmered down to a small number of manufacturers, is that in Europe, they cannot buy pure foundation as we can here. I don't have any thought at all about the quality of foundation when I buy it; I know it is pure almost as absolutely as if I had given it all three of the tests mentioned by Mr. Dadant. I think Mr. Dittmer is entirely right in saying every man should be supposed to be innocent until proven guilty, and the burden of proof should not lie upon the manufacturer to prove that he is innocent. I think in the same way Wiley, if he has made that mistake again, should be taught to believe that he should not, after having made such a sad mistake before—that he should certainly not make the third mistake, or the bee-keepers of the country will resent it.

Mr. Abbott—Of course, you are just taking this on my say so, but I have the article and I suppose it is set up in type now and will be in the Modern Farmer in the next issue, and I cut it from the Rural New Yorker. This letter is addressed to the editor of that paper, and signed by Dr. Wiley. It seems the editor of the Rural New Yorker asked for an article with regard to the matter of adulterated honey, and Dr. Wiley is endeavoring to set himself right. It is in connection with the Ladies' Home Journal

statement, and there is a whole column in it and the article closes up with the statement I refer to. Of course it was news to me. I thought I had been handling tons and tons of foundation that was pure, or, at least, I had been telling my customers it was pure, and I was standing behind it myself, and I had my reputation at stake and I wanted you people to know it as soon as possible. I thought I would send it to the American Bee Journal, but we like to get "a scoop," and I thought I would copy it first.

Pres. York—Have you the entire letter?

Mr. Abbott—I have the entire copy, my comment and the editor's upon it.

Dr. Miller—Just what is the statement he did make?

Mr. Abbott—The sentence states that honey is not adulterated, but that paraffin is used wholly or in part in the manufacture of foundation. Those are not exactly the words but that is the substance of it.

Dr. Miller—That leaves it, he might say if he knew of a single case in which some fool who was making experiments might have used only half a pound of it. Perhaps it will be wise for us to be careful in what we say, and rather ask the question whether Prof. Wiley has any proof; and perhaps it would be wise to let the journals ask him. I think that would be better.

Mr. Dadant—I think you are doing Mr. Wiley a great deal too much honor by paying so much attention to what he says. In regard to this accusation, it only strikes one or two firms. I am perfectly willing to stand on my own responsibility, and my respectability, without any attention being paid to it.

Mr. Dittmer—Mr. Dadant is wholly right. Prof. Wiley's reputation in the past has been such that he deserves no attention on our part, and the best way to get rid of an obnoxious person is to ignore him.

Mr. Abbott—Mr. Wiley is chief chemist of the United States; his word is authority not only in the United States but all over the world. He is quoted as the representative of the United States by the chemical men of the world and we cannot ignore Mr. Wiley. We have to face the fact that he represents the United States among the scholars of the world so far as chemistry is concerned, and he represents the United States so far as the people in command are concerned. We cannot ignore those things. It is all right enough to say we are giving him too much advertising. We are not giving him too much. The chief chemist of the United States, who speaks by authority of the United States, ought to tell the truth.

Mr. Dadant—But he doesn't. It will serve no purpose whatever to demand anything. A man who will state a thing which he knows to be false will stick to the falsehood. He will make an untruthful statement again, and it will simply make matters worse by having anything to do with him.

Mr. Hutchinson—Not only Mr. Dadant but all other comb-foundation manufacturers are affected if these statements go out in the Rural New Yorker all over to the reading community that buy honey; it prejudices them against our product.

Mr. Dadant—In that case, don't ask him to prove it but simply state that it is not so. If you ask him to prove it when he has made the statement he will prove it in some way if he has to manufacture something in order to prove it in one single instance. That will be sufficient for him, and sufficient to hurt your business that much more.

Mr. Colburn—I wanted to ask if anybody here knows whether bees will work on foundation that is made partially of paraffin?

Dr. Miller—Yes, they will.

Mr. Colburn—What proportion?

Dr. Miller—I don't know.

Mr. Wilcox—What causes the difference in foundation with regard to some being very hard and others very soft at the same temperature?

Mr. Dadant—Beeswax is a little like iron; you can cast iron and make it malleable, and it is the same way with beeswax. Pour beeswax into a mould and the cake will be brittle. It will break readily and you can't stretch it. But put that cake of beeswax under the roller and it will become malleable; that is, warm it to a certain temperature. There are a good many points concerning beeswax that it is impossible for the general public to know. In regard to the adulteration of beeswax with tallow, it may be well to inform you as to the way of detecting tallow. It is very easily detected; it makes the beeswax softer, and when you have a cake which you suspect of having tallow at the ordinary temperature, run your fingernail over the cake. If it is pure beeswax it will make ripples in the cake; if it is tallow it will make a dull-looking streak in the cake.

INCREASING THE CIRCULATION OF BEE-PAPERS.

Pres. York—Here is a question that I didn't ask myself, but I would like to know the answer. "What can be done to increase the circulation of bee-papers?"

Mr. Moore—Advertise.

Mr. Abbott—I do not think that that ought to be passed by. I am not saying that because I am interested in papers; I don't publish a bee-paper; I publish a farm paper. But it does seem to me that there is not enough pride among beekeepers in our industry. I asked that question and I asked it because I wanted to say something. You take the poultry people, and there are in the United States something like 15 or 20 poultry papers that have a circulation ranging from 25,000 to 75,000. They all have good circulation, and every poultry keeper swears by his poultry paper. Every poultry keeper has a pride in his industry and therefore he reads carefully his poultry paper. They do not all take the same

paper, of course, but they swear by some poultry paper, and they go out and talk it up amongst their friends, and they get subscribers for the different papers; they are talking it up at institutes and poultry meetings, and all the time interested in pushing the circulation of their papers. But it seems to be a crime to mention a bee-paper at any bee-convention. The editors are so modest they will hardly distribute sample copies for fear some one will say they are trying to drum up trade. If they are, they are drumming up trade that helps us. Take the American Bee Journal, the only weekly bee-paper that is published on this continent and it has a paltry circulation say of less than 10,000 copies, and perhaps there are less than 30,000, all told, that read bee-papers, and we are told, and we tell the world, that there are over 300,000 bee-keepers in the United States. Are there less than 30,000 out of 300,000 who have enough pride in the industry to spend one dollar a year to learn what is going on in the industry? It seems they must think it a very small business if it is not worth investing a dollar in. There is no other kind of an industry but what the people who belong to it are willing to take three or four different papers. The hog people, the sheep people, and the poultry people, take three or four papers. A man came into my place the other day who is just an ordinary poultry fancier in the city, and before he went out he had subscribed for four poultry papers in addition to mine. I said to my wife, "That fellow has some pride in his industry." If a man happens to take two or three bee-papers, and spends two or three dollars a year for bee-literature, he seems to think he is making a bank account for some fellow, that lives in the city. I can't understand how it is we have so little industrial pride in our papers. If the American Bee Journal, instead of having less than 10,000 had 100,000 subscribers, what a power it would be. Then when Mr. York opened his mouth in the American Bee Journal in regard to such a thing as we have just been discussing it would mean something, because he would have a constituency behind him, and he could make himself heard all over this land. I say, the way to do it is for the bee-keepers of the United States to take an interest in the circulation of our bee-papers. Mr. York, Mr. Root and Mr. Hutchinson will all be gone soon, their hair will soon be as grey as mine—mine is not very grey yet, but I am getting old, and I know it—and Dr. Miller there, and somebody must come into their places, and this industry is to be perpetuated and the bee-papers are what perpetuate it, and I say we ought to take more interest in it than we do, as individuals and bodies.

Dr. Miller—I must say a word in defence after such a lambasting as that. I very much doubt whether there is a larger percentage of poultry men take the poultry papers than the percentage of bee-men that take bee-papers. Did you tell us how many poultry subscribers there are and how many poultry keepers? Please remember this, that there are more people that keep hens than keep bees, very many more; there are more than five times as many.

Mr. Abbott—I am talking of the poultry fancier.

Dr. Miller—If you count the poultry fanciers and the bee-fanciers. I think they will rate very fairly. I think the bee-fanciers take just as many papers as the poultry fanciers take poultry papers. But you must remember that the subscription list of these papers is not made up of fanciers so much as of those who keep a few hens or a few bees. My wife keeps hens and several other wives keep hens, and they don't keep bees at all. When you take the number, I do believe Mr. Abbott will find out he is a little hard on us. We are keeping up to the mark just as well as the chicken people are. The thing in a nutshell is, there are not so many bee-keepers as there are of the others, and I don't believe we are as "worse" as we might be.

Mr. Whitney—I agree somewhat with Mr. Abbott and with the Doctor. I think the Doctor's position is about correct when he makes a comparison between the chicken men and bee-keepers. But the fact is, we don't take the bee-papers as we ought to. I don't care how many chicken men take chicken papers, every mother's son of us ought to take a bee-paper. There is not a farmer in the country but ought to take an agricultural paper and a bee-paper and a fruit journal. They all raise fruit, they all raise poultry, and nearly all of them ought to keep a few colonies of bees; that is, keep them right, keep them as they should be kept. I have tried my best in the last year to increase the subscription list of the different bee-papers; I have succeeded in getting four or five individuals to subscribe, and they are delighted with what they get in the bee-papers. I think if we would all take that interest in it, that we go to somebody who is our neighbor—and some clever fellow would just as soon give a dollar for something he doesn't know anything about, may be he will learn something about it, and in that way we have increased the circulation of these different journals may be one hundred percent. I think we can do it next year, and if we do that, we will increase the membership of the National Association, too.

Mr. Dadant—I wish to take issue with Mr. Abbott in the statement that there is a greater percentage of poultry raisers who take poultry papers than there are bee-keepers who take bee-papers. I believe it is the other way. I think you all know everybody keeps poultry, except a few people in the big cities. Every farmer keeps chickens. We see the chickens when we pass by the farm-house; and lots of city people keep poultry. Now, what per cent are there of those people who keep bees? How many are there of the people who keep poultry who read a poultry paper? Only here and there. But of those who keep bees the great majority, who have an interest at all I believe, take a bee-paper. There are plenty who raise two hundred chickens a year and who make money out of them who do not take a poultry paper. But there are very few farmers that we find who make any money at all out of bees that do not take a bee-paper. Therefore, I believe, generally, the bee-

keepers take a journal where the poultry men do not take a poultry paper.

Mr. Whitney—I know a bee-supply man who has a large sign out by the side of the railroad advertising bee-keeper's supplies and honey, and he doesn't take a journal, and I have talked to him more than a little to get him to subscribe for some of the journals.

Dr. Miller—I would like to ask those bee-keepers who take only one bee-paper to rise. (7 rose.) How many take only two? (2.) How many take only three? (16.) How many take only four? (5.) How many take more than four? (6.) I am very glad to have the opportunity of asking those questions. I want to follow the advice of Mr. Abbott, and urge that those who do not take a bee-paper, that did not rise, to take a bee-paper. You will like it; it will do you good.

Pres. York—I would like to ask Mr. France to say what he found in Wisconsin, where he had made a pretty thorough canvass of bee-keepers, as to the proportion of them that take a bee-paper.

Mr. France—A few years ago, I don't remember the year, I was going to make a very thorough report while inspecting bees over the State. I believe Wisconsin will average up to any other State as a honey-producing State; it will average as well in its proportion of those who are readers of bee-papers. When I had finished that season, I am sorry to say I found only one in twenty who was a reader of the bee-papers. That looks pretty tough for my own State, but I believe if you take the subscription lists you will find it will average up with the other States. It is just the same with the farmers' institute. Wherever the farmers' institutes were frequently held we found better farmers; and invariably wherever I find a home that takes a bee-paper I find a better bee-keeper.

Mr. Abbott—I want to say further, I know scores of people who have from 10 to 15, 20 to 100 colonies, who do not take any bee-paper at all. I have a way of finding out because I am taking subscriptions on the basis of new subscribers only for the American Bee Journal, and you would be surprised to know the information that comes to me along that line. People come to me and say, "I want to take that club offer of yours;" and I say, "Why, you can't take that; you get the American Bee Journal right along; that is for *new* subscribers." They say, "No, I don't. I don't take it at all." Some of them say they never have taken it; and some of them say, "I never have heard of it; what kind of a paper is it?" And they don't all live in Missouri, either. [Laughter.]

A NATIONAL HONEY EXCHANGE.

"Is there any movement on foot regarding a honey exchange or any method whereby the National Association can market its members' honey?"

Pres. York—There was a movement started in St. Louis

to organize a National Honey Producers' Association, and there were some subscriptions of stock taken.

Dr. Miller—But not for the National?

The President—It was started in the National convention.

Dr. Miller—I think you are right that there was a movement started there to get up a honey exchange, but not that the National was to do anything about it.

Mr. Whitney—From the report which was sent me I think the Doctor is right. There was an attempt to organize something inside of the National, or by individuals who belonged to the National becoming stockholders of the new corporation if it was formed, for that purpose.

CASH FOR PROOF OF ADULTERATED COMB HONEY.

"I suggest that this Association offer \$500 for two pounds of comb honey that is proved to be adulterated."

Prof. York—I don't know who suggested that, or where the \$500 is to come from, but the intention no doubt is all right. It is proposed that this Association offer \$500 for two pounds of comb honey. I suppose it is meant two pounds that the bees didn't make. What are you going to do with it?

Mr. France—I think nearly all here are members of the National and this was threshed over very thoroughly at St. Louis. I don't know why it should be brought up again. We know that manufactured or so called artificial comb honey has not been made or placed upon the market, and there is no necessity of agitating that matter here at length.

Mr. Wilcox—I read the proceedings of that convention at St. Louis, and I think all who have read it understand if anything is to be done it will need to come in a little different form from this. But I hardly see the necessity or advantage of trying to do anything. But if we do, we should need to put it in proper form or else we would create a wrong impression and say something we didn't intend.

Mr. Whitney—It seems to me it would be better to let the individual who manufactures that pound of honey take the A. I. Root Company's \$1,000 for it. I understand they have an offer, and have had it for years, to pay \$1,000 to anybody who produces the proof. If I were going to manufacture that pound of honey I would rather go to them.

"What can this Association do to counteract the evil effect of the publication of the manufactured-comb-honey story in the press of the country? Can we do anything? If so, what?"

Mr. Dadant—Publish statements to the contrary.

Dr. Miller—I doubt very much the ability of this Association as an association to do anything, but I don't at all doubt the ability of the individual members to do something by working through the local press. They can do a great deal in that direction. I doubt the wisdom of any action on the part of this Association.

Mr. Whitney—On that question I have something interesting—to me, at least. I heard of a merchant in this city who sold a lady a case of honey, and the next day she sent it back and came in in a day or two after to tell him she had sent that honey back. She said, "That is manufactured honey. It came from South Water street; it was made by machinery, and I never bought any such honey as that." He told her that she was mistaken, and convinced her it was not manufactured; that it was put in by the bees. She finally consented to let him send the honey back to her house. But there are plenty of people who really think that there is plenty of manufactured comb honey on the market. I meet them at home; intelligent people on everything else but bees and honey; they don't know anything about it.

Mr. Moore—Some of you may think we are threshing this thing out at unnecessary length. My specialty has always been honey for private families. Some of us visit the people who eat our honey on their tables, and you will all admit that they are not quite the biggest chumps on earth that are running the city of Chicago, large and small, rich and poor; and I want to tell you, from all those people, of all conditions in life, comes this question, "Is comb honey really manufactured?" And they ask me as an expert to answer it. "Is most of the honey on the market manufactured?" This comes to me in one hundred and one different ways. I have one answer. Of course I say that all comb honey is pure honey. Some of you perhaps do not come in touch with these folks in the way I do, and you think it is a question that we are putting too much stress upon, but every one of you ought to carry the idea through your lives, that whenever you can you want to strike a blow in favor of the right. Dr. Emma Walker, in the Ladies' Home Journal, put forth a statement in which she said that one of the largest uses of paraffin was to make manufactured comb honey. Then and thereupon I wrote to her contradicting it, and I wrote to the editor saying that it was absolutely false, and it was wrong for any one in her position to put forth a statement that would injure a large number of people. Mr. York also wrote to the editor a personal letter. We both got answers. I suppose that that department was flooded with letters from all over the country. We looked with a great deal of interest to see what would be done. Perhaps two months afterwards came the answer, an article in which she summed the thing up and said this and that authority said it was so; and that the Encyclopædia Britannica said that there was manufactured comb honey, and gave four or five different authorities stating that comb honey was manufactured and paraffin was largely used. But she summed it up at the bottom by saying that "after talking with practical bee-keepers and considering the matter in all its points we have decided that there is no such thing, and never has been, as manufactured comb honey." It was the result of our influence. Now, all of you go through life and remember to use your influence wherever you see the

opportunity. Wherever you see in the newspaper an article with this falsehood, go to the newspaper, or write, and have it contradicted, if possible, and do not let a single instance go by of contradicting this infamous lie that has been passed around from one end of the world to another. That is the way in which this Association, and we as individuals, can do good; whenever we see a head, hit it!

Mr. Becker—It is a fact that there are many people who believe that there is adulteration both in comb and extracted honey. I sell honey right here in Chicago. I have bought it from Mr. York and from Mr. Dadant. I ship honey to Chicago. They wouldn't under any consideration buy the honey here in Chicago and believe that it actually was pure honey. They have told me so, time and again. I have tested the honey to-day that I shipped here ten years ago, and which has been kept in an open jar. I told them that the honey was too strong. They thought it was delicious. It was pure honey. A few years ago we brought in honey and I told some of the parties here that I would guarantee they would get pure honey here in Chicago, and I told them where to get it. They got some of it. They said, "Oh, that was not pure honey; that was not honey like you sent me." But it was pure. We all know that there is no adulteration in comb honey, but when it comes to extracted honey of course there is sometimes adulteration. There are so many varieties of honey; there is bass wood, white clover, alfalfa, Spanish-needle, heartsease, and other varieties of honey, and one does not taste or look like the other, especially sweet clover and basswood. You give them some of your honey and they have been used to white clover or alfalfa, and they just declare up and down, and you cannot make them believe that it is not adulterated honey. I have sold honey in Springfield for the last 20 years, and one traveler there accused me two weeks ago of having a monopoly because he couldn't sell any. I told him I was glad that I had the monopoly, if I had it. But the only way I got that monopoly was by selling them an article that I stood behind. I said, "If this honey isn't pure, and if anybody does not like it, don't argue with them, but tell them to bring it back and give them their money back; it is my honey and I will take it off your hands." And to-day should I go to Springfield I am asked no questions as to its purity. I simply ask, "Do you need any honey?" And they say, "Yes, two, three or four dozen, and as high as a gross." I never buy on the Chicago market. I don't send any honey here. I am right the other way; I take it from Chicago and sell it at other places; and I sell it at home, and I will stand behind my honey, and never sell anything but what I know is pure, genuine honey. If you all do the same thing I think you will have no trouble in selling your honey.

Mr. Dadant—I wish to insist on the necessity of our explaining the comb-honey story wherever we can. We must do it. I have a better opportunity perhaps than any one else of finding out what the general public thinks of the

comb-honey story. When I travel I come across business men and we get into conversation. The first thing we ask one another is, "What is your business?" I say, "I have a little factory out here in the country." "What do you make?" "I make comb foundation." "What is that?" "Did you ever hear about comb honey being manufactured?" "Oh yes." "Well, there isn't any such thing. I make the nearest to comb that can be done." "Is that so?" Then comes the explanation. If I have a sample I show him and he is absolutely convinced there is no comb honey manufactured. But when I first meet him, if knows anything about it he knows comb honey is manufactured and sold! I find very few people that do not believe it until it is explained to them. When I tell them, I know they believe me because there is no reason for me to tell them a story and they understand how the story was gotten up. But this extends to you; it is absolutely necessary to make this matter known widely because there are millions of people who have read that story and believe it simply because they have never been told better.

Mr. Smith—I want to say I have convinced some parties by exhibiting some of the thin foundation and explaining why it was used and how it was used, and that was all there was to it. It dawned on their minds finally that I was right. I think the more we do that, and the more we can explain this thing and talk it the better, because it is the fact, and it is easily demonstrated when we have the evidence, that is, the foundation, and show the people that that is all there is to it. I am like Mr. Becker, I believe in every bee-keeper standing by his honey.

Pres. York—Before Mr. Smith spoke I was wondering whether it would not be a good idea for every bee-keeper to carry a little piece of comb foundation; and I am going to suggest to the comb manufacturers that they get up a little pocket-holder with a piece of comb in it, and give it to all the bee-keepers. I think it would be a good advertisement for them.

Mr. Abbott—If these comb-foundation men would find out when the Traveling Men's Association meets, and send some of this comb foundation there they would do more towards counteracting this than anything I know of. The traveling men who travel for wholesale houses do more to keep this story alive than any class of men in existence. I never met a traveling man in my life, who was not a bee-keeper, that did not think that comb honey could be manufactured. He wouldn't believe it at all when I came to talk to him. Every once in a while I meet one who wants to bet money on it. I met one in the streets of St. Louis one day, and he said when I told him it was not manufactured, "You are crazy. I know right where the man is; he is down the street here not more than four blocks away, and he was talking to a man that knew well." I put my hand on the man's shoulder, and said, "Am I responsible for \$500?" He said, "I think you are." I said, "My dear sir, come on down

the street with me and I will give you \$500 in clean cash if you show me that man." He stopped and looked at me. He said, "I am awfully busy." I said, "Can you make \$500 in a day, or an hour? Come on with me. I want you either to stop this story or else go and show the goods." He said, "I didn't see it, but I saw a fellow that said he saw it." [Laughter.] That is all there was to it; but they keep sending it around.

Mr. Becker—The general public confuse foundation with honey-comb. They are all well aware that there are factories that manufacture comb foundation, but they call it "honey-comb." In that way the general public get the wrong idea, and they think it is the genuine honey-comb. Instead of that the word "foundation" should be used, and, as has been suggested, they should be shown a sample so that they understand just what it is. But it is commonly known as honey-comb, and that is the reason I believe the general public has that impression.

Mr. Pease—A few months ago I placed some cases of honey with a firm here in Chicago. At the time I did this one of the gentlemen said, "I want you to tell me something that I can tell the enquiring public about this artificial honey-comb story." I said, "I will not take time to do it now, but I will come in tomorrow and explain that to you." The next day I went down and took with me a section with a full sheet of foundation that was partially drawn out—drawn out more at the top than at the bottom; I used the extra-thin foundation and the bottom had not been drawn out at all. I went on to explain to him the process by which this foundation was used, and how it was made, and that that was the extent of this artificial honey-comb. I left a section containing this partly-drawn foundation with him. Several weeks after that I went into the store and asked him about his honey, and spoke of this sheet of foundation that I had left with him; and he said he had experienced more satisfaction in using that to explain to the public exactly what comb foundation was, and what artificial honey-comb was, than anything else he had ever seen. I simply offer this as a suggestion. I believe whenever you place a consignment of honey with a firm, especially a retail firm, if you will take the pains to place with them a sample of foundation or a section containing the foundation, or partly drawn foundation, you will take a long step in educating the public as to what this artificial honey-comb is.

Mr. Wheeler—I always seem to have to differ from the public. I differ a little on this question of foundation, and I have had considerable experience in selling honey. I have explained foundation to the public, and I have had them go to their friends the next day and tell them, "Why, Wheeler had some manufactured honey there;" and they confused the foundation with the comb, time and again. I have had that happen. They say, "He buys comb and puts it into the hives." One or two years I went to the County Fair and explained foundation to the folks. I had that thrown back

at me so many times that I made up my mind I never would speak of foundation at all unless people asked me if I used it. Of course I don't deny using it. But this explaining to the public that you put in a sheet of beeswax—they can't tell whether there is a "sell" there or not, and the trouble is you know how a story goes; they will repeat the thing to their friends, and put an addition to it, and the first thing you know it will come around that you really furnish the bees with comb.

Dr. Miller—"A little learning is a dangerous thing." The trouble in Mr. Wheeler's case is that he doesn't go on and educate them far enough, and keep right after them, and they will come finally to know enough. He gives them just a little sight of that, and they put a whole lot more to it. He should follow that up and show them it is not so. Get after them after they have heard the wrong thing. I do believe enlightenment on the subject will finally bring the public to the right place. I am just half German blood in me and sometimes it gets me into trouble. Mr. York suggested a thing that I had in mind, and by some sort of telepathy he got hold of it and told you to carry around foundation. That was a thing I had been thinking of before, and if he had just waited a little while I would have said that. I believe there is wisdom in it. I have thought after this I will try to have a piece of foundation in my pocket. I don't doubt at all that these foundation makers will approve of that, for we will "draw out" a good deal of foundation in that way!

Mr. Whitney—I would like to make another suggestion in regard to advertising this matter. If we would all write a short article on this subject to our local editor; there is no individual here but can do that in his own locality and publish the facts in regard to this foundation business, this comb-honey business, and this extracted-honey adulteration. By doing that we will do a great deal more than we can do in any other way personally. The editor of our paper at home has been importuning me to write a series of short articles for his paper, and I have partly promised to do it on that very subject, and touching upon bee-keeping generally—all the little things and facts about it. I think if we will all do that in our local papers we will do more to correct this impression that has gone abroad than we can do in any other way, and do it easily; too.

Mr. Meredith—Some three hundred car-loads of excursionists visited our Park the past season where I had an exhibit of bees, extracted wax, a press, and utensils used for the production of honey. Among those were comb foundation partly drawn out, finished and capped, and in almost every manner, and it was very interesting to the people as they had never seen the way extracted and comb honey was produced, in looking over and seeing how the foundation had been extended. And also I had a number of pieces of foundation coiled up in the shape of wax, and I used them for the purpose of selling, selling it for so much, taking an or-

dinary piece of foundation and winding it around a rod and selling that to them for beeswax. The biggest part of the people that looked over my exhibit could see what was considered artificial comb was practically pure wax drawn out by the bees, and I think it had a big influence in the enlightenment of people in regard to this artificial comb.

Mr. Dadant—A gentleman over here spoke a while ago. He thought it was not advisable to let people know that there is foundation in combs. The question is only whether we shall allow the people to keep on believing a lie or tell them the plain truth. We do put foundation in our honey. In fact we cannot get straight sections without putting foundation in it. If we explain that we must explain to them we put foundation in the bottom. It is nothing to be ashamed of. Why not tell them that rather than allow them to believe a lie, for fear of telling them that honey-comb is manufactured and sealed over? I have never seen a lady, delicate as she may be, that was not willing to take a piece of that foundation and chew it. If they are willing to do that they are willing to eat the honey that is made on that foundation.

Mr. Horstmann—I think each bee-keeper is responsible for his own neighborhood. I don't agree with Mr. Wheeler. I believe you should explain to them the use of the foundation and why you use it. I will take people right into my bee-house and show them sections before they are bent and put together; show them the strips of foundation before they are put in; show them the machine I use for putting the foundation in, and for fastening it; show them how I fix up the supers; shows them how I put it on the hives; show them the bees working, and then guarantee to everybody that my honey will be absolutely pure. If they find any adulteration I will give them \$100, and also pay for the analysis. I want people to be fully satisfied when they buy honey from me that they are getting it pure. I have never had to take any honey to a wholesale house; I have always been able to sell it at home.

Mr. Wheeler—I am afraid I was misunderstood. I have been selling honey a good many years. I aim to sell as much honey with as little work as possible. It would be a pretty hard job for me to explain to every customer who buys a pound of honey all about it, but I tell you one thing that proved to me very strongly that the idea of foundation went against the people? I have used for ten years a split section that showed the foundation on four sides. I put in four sections in a row, put sheets of foundation through the middle, the sheet of foundation running the full length of the section, and when I got ready to case up those sections I pulled the sections out and scraped the foundation off and went ahead and cased it up. A great many objected to that foundation. All they saw was the foundation sticking out. The grocery men say, "I wish you would let me have sections that are not split; my customers object to those split sections." The consequence was I quit for the present using them. It is a very convenient section the best kind of section in the world to

get filled out, but I had to cater to the trade and I did it just for that reason, no other, simply because people saw that foundation and they said, "Well, that looks as if it was manufactured; I am a little afraid of it."

Mr. Kimmey—I would like to ask some of these practical men when they speak of foundation drawn out what proportion of foundation is used in honey? I speak now of section honey; such as is produced by Dr. Miller's bees.

Dr. Miller—That will depend largely on the foundation itself.

Mr. Kimmey—Take the thin surplus foundation?

Dr. Miller—I should say that the thin foundation is drawn out perhaps an eighth of an inch.

Mr. Kimmey—So that you would not dare recommend your product as being the work of the bees without any artificial assistance.

Dr. Miller—Certainly not if there is foundation in it.

Mr. Kimmey—The question is whether we are to tell the truth about it or try to deceive them; I believe the truth is the best.

Dr. Miller—Certainly. I don't think any reasonable person would object to that, and I don't think an unreasonable person will object to that after you have explained it to him as much as he would without the explanation.

Mr. Kimmey—I will confess I was one of those persons for two years who firmly believed honey was manufactured—comb honey, everything by machinery. I heard it so often. I knew so many things that I firmly believed the comb honey capping and everything was manufactured. I have found out differently since, but I have found out also that the foundation is manufactured. I can't say it is to the detriment of anybody, and I don't believe in trying to deceive or fool anybody.

Mr. Bacon—When you come right down to it, foundation is not manufactured; it is pure beeswax and is merely pressed out; it is originally made by the bees.

Mr. Kimmey—If you can manufacture the full comb and fill it with the pure article, that is absolutely pure; it is just as good as though made by your bees.

Mr. Meredith—I would like to have Mr. Dadant and Mr. Root give their opinion of how much of the medium or light brood can be drawn out in the shape of foundation.

Mr. Dadant—If you give foundation and the bees are not too much in a hurry they will draw it nearly entirely into comb. There is a great difference in the result between when the bees are in a hurry and when they are not. If they are in a hurry and they have plenty of wax they will add to the foundation without drawing it much. They will always work the foundation over. They have changed the shape of it; they have changed it to suit themselves. They always thin it a little if they have plenty. I suppose you understand that clearly. Of course it is according to the grades of foundation, you have thicker or thinner combs both into the midrib and also in the wall. The first is always the best for comb honey.

What we call extra-thin we have always considered the best for starters or sheets in the supers. I think very little of that will go into the cell-wall. It will nearly all remain in the midrib because it is so very thin. Therefore, I want to advise people to use the very thinnest for their sections. But when you come to medium and light brood, it is out of the question to furnish that to people for consumption. You will have a heavy midrib in either case. I am afraid too many people use that and create a sentiment against the foundation. But better have a sentiment against the foundation, which we must all know and acknowledge to be there, than to let them believe that your honey is manufactured comb honey, and sealed over with a hot iron, as so many believe. The great trouble is they don't look and don't rely on their palate. The car-loads of honey that come in from the West are largely responsible for that. It is very nice and white, and it looks as if it had never been on a hive, to anybody who does not know. But anybody who will look at the honey, and anybody who can be told that no two sections are alike, will readily understand that it cannot be manufactured. Because, if we were to manufacture them we could not make every comb different from every other comb.

Pres. York—It has been suggested we write for our local papers. I want to say that a few weeks ago my attention was called to a statement about manufactured comb honey in one of the papers that has perhaps several hundred thousand readers. I wrote the editor asking him to make the correction, and he replied that he believed comb honey was manufactured, but if he found otherwise he would correct it. A few weeks later I received another letter from him saying he had discovered it was not true, and he would correct it. I wrote him at once and thanked him for his intention to make the correction. I also said if he wished I would write him an article, and got a letter in a few days saying he would be glad to have me write an article of eight hundred or a thousand words, and I have just written the article. It may have been a little presumption on my part to offer that, but I think it was all right, and I think the rest of us can do the same thing. Whenever you see anything about honey that is wrong, ask for the correction of it, and offer to write an article.

EVENING SESSION.

At 7:30 o'clock p. m. Pres. York called the convention to order and stated that before proceeding with the business they would be favored with some music and a couple of readings.

Master Ferdinand Moore and Miss Esther Wheeler, favored the convention with instrumental solos; Mrs. Dittmer pleased them with a reading entitled, "A Lullaby," while

Dr. Miller convulsed the audience by a reading showing how a certain German was cured of rheumatism by the bee-stings.

ADVERTISING HONEY AS A HEALTH FOOD.

"What can this Association do in the line of advertising that will show the value of honey as a health food in the newspaper press?"

Dr. Miller—I think perhaps the Association will do about as much as it can be expected to do in that direction by the publication of this report, in getting in the things that were said here to-day and encouraging the publication of items in the local press.

BREAKING DOWN PRICES OF HONEY.

"What can this Association do along the lines of preventing bee-keepers themselves from breaking down the prices of honey early in the marketing season?"

Mr. Wilcox—That is the most important question we have to consider; at least it has been with me all my life. We have never found a solution, and I don't believe we ever will. I believe that the best advice we ever had on that subject was that given by our late friend, Thomas G. Newman, when he advised us to work the home market, to see it was always supplied with all the honey it could take. The aim should be to increase the consumption. It is quite certain that there is not as much honey consumed as there can be, and should be, and would be if it were properly presented to all people. It involves an extensive system of advertising, and that has been told over and over again by Mr. Abbott and others, and yourself, Mr. President, and I believe that it is in the right direction. I can't think of anything better to get the world to know it is good, and use it. I propose to try a little scheme of my own of honey and buckwheat cakes, simply because they are two commodities in which I feel interested. I believe the two will work well together, and the consumption of one will help the consumption of the other, for anything that will tend to increase the consumption of one will help the other.

Pres. York—I think the price of honey is lowered by some bee-keepers not knowing what honey is worth starting out with the price too low.

Mr. Wilcox—The remedy for that, so far as my own locality is concerned, has been by some one who does know the value of honey, or can learn it, in the season buying up all the cheaper lots and putting them upon the market at the proper price.

Mr. Whitney—It seems to me that the way to furnish a good market for honey is to produce the very best article you can, and make people believe it. I have known honey to be sold at 15, 16, 18 and 20 cents a section right in a community where much honey was selling for 10 cents, simply because they knew that the honey they were paying

the higher price for was all right. I think every bee-keeper ought to do the very best he can, not be slipshod, not have dirty-looking sections, not have one full of holes all around, or perhaps not filled at the bottom of the section at all. Produce the best article you can, and make people believe it is all right, and set your own price.

Dr. Miller—I suppose that nearly all here have been taught to believe by the newspapers that they need a biscuit. Pick up any newspaper and "Uneeda biscuit" will stare you in the face. Thousands and thousands of dollars are evidently spent in advertising that one style of biscuit. Those men are not spending money for fun; they are not wasting money, either; they are level-headed men, with a standard article that needs money spent in advertising it. Is there any question that a proper amount of advertising of honey would bring in returns. Is Mr. France here? I was just wondering whether he would agree with my statement or not. Yes, there he is. Mr. France, I want to see if you will agree with me. If the money that has been spent by the National Association helping to settle quarrels were spent in advertising honey in the public press, somewhat in the same way that "Uneeda Biscuit" is being advertised, I believe it would do more good, just a little more, at least, towards raising the standard of honey all over the country. Now if you don't believe that, Mr. France, say so.

Mr. France—I endorse it.

Dr. Miller—Good for you. I believe that is a point in the right direction. You ask what can this Association do? If this Association could get enough money into its treasury to help in that same direction that would be a good thing. For at least this Association is helping to make the National what it ought to be, and I am speaking for one only when I say that I believe there is a great work for the National before it to advertise honey, to put a lot of money in. It will take a lot of money. But if the thousands upon thousands of bee-keepers in the country could be got into it there would be money enough to do some good. I know very well some of you will say it will take so much money you need not try it at all. If you can suggest something better I will take that back.

Mr. Moore—There is a thought that occurs to me, different from anything that has been expressed by anybody else. I was one of those who went to the Illinois Legislature and helped them to get a law two years ago for bee-keepers—and an appropriation. In the midst of other things this impressed itself upon my mind: The faith and confidence that the Legislature and the public at large have in associations. There is so much crookedness in the world at large that people are skeptical about anything they don't know anything about. For instance, take this question of manufactured comb honey: The public at large do not know any more about comb honey or foundation than a week-old baby does about arithmetic or the dictionary, until they are taught by the specialist, and they decide the worst possible thing out

of their absolute ignorance on the subject. But they look upon our associations, the bee-associations, the dairymen's associations, the fruit men's associations, and anything coming from those associations, and put forth in a formal manner, as the act of those associations, and give full credence. Witness the Dairymen's Association got through the law establishing a pure food commission. I think I am correct in saying there would be no such law on the statute book to-day unless the dairymen had talked it and worked for it. Another thing, three or four associations were given appropriations by the Legislature two years ago. They give the Illinois State Bee-Keeper's Association \$2,000. They did that because the association asked for it, and they took at one hundred percent all the statements made by the association. Now, let us, along with the National, advertise in such papers as seems best, "Buy your honey of members of the National Bee Keepers' Association," or other associations, according to your judgment, and continue that year after year, not at large perhaps, but somewhere every month in the year for five years. After a while everybody who reads the English language will know that there is honey sold that is guaranteed by the name of the National Bee Keepers' Association, and people will come to inquire for honey under the brand and guarantee of the bee-keepers' association. That has been done for ten years now in Vermont. The Vermont Maple Sugar Makers' Association issues a very fine report every year, and I have had the pleasure of reading two or three of them, and one of their methods was to go to the Legislature and get as stringent a law as they could. Then they have adopted a brand which is issued to all members of the Vermont Maple Sugar Makers' Association. It is a general brand which is copyrighted or trademarked, which ever it is, and there is a blank for each member to put in his own individual name and address, and there is a penalty against any one using this except authorized parties. It seems to me that is perfectly feasible, when you take into consideration the public minds, and advertising would be a way to spend some of our money.

Mr. Becker—Those bee-keepers that are taking the bee-papers and are paying annual fees here, claim to get a fair price for their honey. Now, suppose we advertise, you have a certain element to contend with that almost give their honey away. You go through the country, and even in my section of country, I can cite you 25 or 35 that have from 5 to 50 colonies of bees, and one of our own members of the Illinois' Bee-Keepers' Association a few years ago sold her honey at 10 cents a pound, as fine white clover honey as ever was put on the market. The storekeepers themselves said, "We would just as soon give her 12½ cents as 10 cents." The past summer I knew of one case where a man sold 1,000 pounds of honey at 8 cents a pound—fine white clover honey. I was after the honey myself, but happened to be just one day too late, and he wouldn't sell any quantity, but he wanted to sell the entire lot at 8 cents a pound. Last year I bought 1,000

pounds of honey at 9 cents a pound in the same locality. I could have bought 5,000 pounds more at 8 cents. What are you going to do with those that know the price, and hold the better honey at simply a fair price? The past summer, when I wanted to sell my honey, I had to run up against honey sold at $12\frac{1}{2}$ cents a pound and I bought 12 cases myself and gave $13\frac{1}{2}$ for it to the storekeeper. The storekeepers are just about as smart as we are. You come into the city with a thousand pounds of honey on your wagon and you want to sell it. You bring it to a store and they say, "Well, we will give you so much money for it." If you are a stranger in that city you probably can drive all over it and you can't get any more money for it, and you might as well have taken the first bid in order to get rid of your honey. These grocery keepers have an organization that is called the Retail Grocery Association. When a fellow comes in, the first man he strikes makes an offer. If you could stay around you would probably see him go to his telephone and watch the honey man, to see which direction he is going, and then telephone to his next friend, "There is a man in town with so much honey; I made an offer of so much money;" that is when there is an abundance of honey. If the article is scarce then they buy it. But you will always have to contend with the bee-keepers who do not know the prices and do not care. They bring their honey into market early, and you men that have honey and are trying to make a living have to hold on until that honey is out of the way, and is consumed, before you get better prices. You have to contend with these parties that do not take a bee-paper, and, don't know the price of honey nor how much honey there is in the country. They sell it for whatever they can get. They go to the store and take it out in other commodities, while you want to get the cash for it; and they always sell it for less money than we can.

The balance of the evening session was in the hands of Ernest R. Root, who delivered a very interesting lecture, copiously illustrated with stereopticon views, also with moving pictures.

SECOND DAY—MORNING SESSION.

December 1, 1904.

At 9:50 a. m. Pres. York called the convention to order and requested Dr. Miller to invoke the divine blessing.

Dr. Miller—Our Father, we thank Thee for another night's rest. Prepare us for the work of the day. We pray Thee that the same kind feelings, and the same kind spirit, may prevail here to-day as did on the past day. We thank Thee for the acquaintances of the other bee-keepers, and that we may meet together in a kindly spirit and discuss the things in which we are mutually interested. We pray, Oh God, for Thy blessing upon us. Wilt Thou care for the dear ones at our respective homes. May we feel that they are safe

under Thy care. We pray that Thy blessing may be upon us as bee-keepers, and we learn something to-day. May we go from here better men and women; better fitted to do the work that our Heavenly Father has for us to do here upon the earth. Bless the President and the other officers. May the President have just the wisdom he ought to have to direct aright the proceedings of this convention. We pray that Thou wilt bless all the members. Lead us in all we do. Lead us, we pray Thee, through life; lead us up to the time when we shall leave all the things of this world, and may we unitedly come up to enjoy the life beyond through all eternity. We ask it in Christ's name. Amen.

REPORT OF THE INSPECTOR OF APIARIES.

We will call upon Mr. Smith, the State Inspector of Illinois, to open this subject, and tell us about his work.

Mr. Smith—Really, I do not believe that I can add to what has already been so often told the bee-keepers by Mr. France, and by Mr. Moore here in his remarks yesterday. However, I will give an outline of what I have done the past year. The way I do my work is by going to places from which I get invitations to come. I don't go out and hunt up foul brood, only in the neighborhood where I find foul brood; we as a rule go around to the adjoining neighbors that have bees and inspect them. During the last season I visited thirty-two counties in this State, just about one-third of the counties, probably—it would be a good one-third with Mr. Moore's work in Cook County. I find that the bee-keepers are very anxious to know all about foul brood, and how to treat it, and they are very apt to learn also. They are very anxious to inform other bee-keepers how to treat it. Of course there is only one way that I treat foul brood and that is to destroy the comb. I don't try formaldehyde or any other disinfectant; I remove the bees and destroy the comb—that is, the brood-combs. I cleanse the hives out and re-hive the bees again on foundation or empty frames. I think that the work is in fair progress, and another year or two will show that the work that has been commenced will bear good fruit. The diseased locations are found mostly in the north part of the State and along the Mississippi River in the north and south parts of the State, also along the Indiana line. I found foul brood in only one county in the central part of the State. Of course there may be foul brood in every county in the State so far as I know, but I think the bee-keepers, as a rule, are reading up, and that is one way we ought to work—through the press, and the mail, and educate the bee-keepers so that they can take care of their own bees. The bee-keepers as a rule, are very anxious to have the Inspector come, and they are very pleasant people to be with. In fact, I believe that the bee-keepers are intelligent and progressive, and are very friendly. There doesn't seem to be any jealousy existing among them, that one is afraid that his neighbor will produce

more honey than he does, or that his bees will do better than his neighbors', but they seem to be anxious to work together. I think that is a very good idea, also. Now if there are any questions that any of the members wish to ask I will be glad to tell them anything they want to know, that they do not know.

Dr. Miller—You say that you destroy the comb and put the bees upon foundation or empty frames. Is that all? Do you let them stay?



DR. C. C. MILLER.

Mr. Smith—No, in about two weeks or ten days remove them and put them on full sheets of foundation; after they have exhausted the honey they carried with them from infected colonies.

Dr. Miller—Isn't two weeks longer than has been the custom?

Mr. Smith—That is long enough. Some I have given as short a time as four or five days, but I think the best plan is

to be sure that the honey is all exhausted; and if it is in a time when there is no honey-flow the bees want to be fed.

Mr. Kimmey—How about the young that have been started in two weeks, or would they start?

Mr. Smith—You cut that comb out and melt it up into wax.

Mr. Kimmey—Suppose that the disease is carried by the honey that the bees have at the time they make the first change, won't the disease go on with the next brood?

Mr. Smith—You will find very little brood in the new comb. Of course it would be in the very young larval stage. The disease never attacks the young bees until they get in the state called the grub state. After the bees become in the nymph state the disease never attacks them. I have never found any that were killed after taking the form of the nymph, with legs and wings.

Mr. Kimmey—Before that time won't the bees that have become infected with the honey carry that infection to the brood that is started in two weeks?

Mr. Smith—I think not. I don't think that the disease can be developed in two weeks. At least I have never found any disease. I have had some parties that didn't change their bees back into the second frames until they had capped brood, and I found no disease there.

Mr. Kimmey—Won't it then be better to put them on empty frames the first time?

Mr. Smith—I think it would, because it has a tendency for them to exhaust their honey in building new comb.

Mr. Kimmey—And afterwards destroy them and put them on full foundation.

Mr. Smith—Put them on full foundation the second change.

Pres. York—I would like to ask in how many apiaries Mr. Smith found disease, and what percent he visited?

Mr. Smith—The percent I visited was probably 90.

Pres. York—Do you know how many apiaries you visited?

Mr. Smith—I have a record of that, but I didn't bring it with me.

Pres. York—How many colonies did you examine?

Mr. Smith—Over 2,000.

Mr. Swift—Is the disease exterminated by melting the wax? Does heat destroy it?

Mr. Smith—Yes. Mr. Dadant can tell that. He gets thousands of pounds of wax sent in, extracted from diseased colonies, and he has never had any complaint against it.

Mr. Pease—Will you give us a plan by which the person who never saw foul brood will recognize it?

Mr. Smith—Did you ever smell a carpenter's glue-pot? It puts me in mind of the young man who went to the medical college. When he returned home they wanted to know all about it. He says, "Now I will tell you, If you had seen what I have seen, and felt what I have felt, and smelt what I have smelt, you would know all about it." [Laughter.] If

you smell that foul brood once you will never forget it. It smells as nearly like a carpenter's glue-pot as anything you can get.

Mr. Wilcox—Don't you find foul brood sometimes without smell?

Mr. Smith—Where it is not fully developed all over the hive and it is just the first inoculation, you may sometimes find a comb of beautifully sealed brood, and just three or four cells that are affected, but it doesn't take long for it to spread.

Mr. Wheeler—I would like to go back a little bit. In regard to this treatment that you speak of, the bees are first shaken out at the beginning of the honey-flow, or "shook-out," and they are put on empty frames. Our bees gathered the whole year's crop in two weeks' time. Now, there is a very tender point right there, whether you leave those bees in the hive two weeks and then take them off those combs they have built in those two weeks and melt those combs up. If it is not necessary to do that it would be a great loss of money to the bee-keeper. If two days or 48 hours would do, that would be a great deal better than two weeks.

Mr. Smith—Two days or 48 hours would not suffice—four days at least. I wouldn't make the change under that time. While it is a fact that they do not always carry the disease with them—I have known swarms to come out of the infected hives, and I have hived them on foundation and they didn't carry the disease with them at all. It seems they exhaust the honey before the young brood gets large enough to take the disease; especially if it is a second swarm and the young queen doesn't get to laying for a few days, the brood is later than the laying queen would be.

Mr. Wheeler—Some of the money that is used ought to be used to experiment along that line. It makes a great difference to us bee-keepers, if we know just how much time there should be. I have had a little experience, and I have shaken them out on combs, that is, just one comb with a little brood in and fresh-laid eggs, and those bees showed no signs of the disease for a year or two, no more than bees shaken out on empty frames; why that was I can't tell. They were no more affected than bees that were shaken out on empty combs and given new comb. The object was to save all the bees possible.

Mr. Smith—In making my trips I cannot go back to every man's yards in four or five days afterward and change his bees, I only leave my orders with him. I have gone back on several occasions where my trip was near there, and found some of them had not transferred them at all. They got busy, it was haying time, and the oats had to be hauled in, and with one thing and another they didn't have time, and they didn't like to bother with them; they were afraid of being stung, and they didn't transfer them back at all.

Mr. Hutchinson—In all my experience with foul brood I have never cut the combs out, as you speak of. I either shake them on starters or full sheets of foundation, and I never had another case of foul brood come on. In other

words, I haven't found it necessary to make that second shake.

Mr. Smith—That is according to the rules that are laid down by Mr. McEvoy. My experience has been the same as Mr. Hutchinson's.

Mr. Hutchinson—I wouldn't like to say it was never necessary, but I say in my experience I have not found it necessary.

Mr. Smith—I have not found any to develop the second time, unless it was taken from other infected colonies.

Mr. Kimmey—From your experience with infected brood, is it your opinion that you would find after the first transfer that that colony would be saved, whatever way it was treated?

Mr. Smith—Oh, yes, where it is done in the early part of the season; and it depends a good deal on the fall flow; but a great many of them have done well.

Mr. Kimmey—Would there be much loss in the first two weeks?

Mr. Smith—I believe you can gain by making the change and putting them on full sheets of foundation because the bees draw it out and you have a full sheet of workers and the queen will fill those new combs. They are not clogged with honey or pollen; and I have had a great many swarm within four weeks after being transferred.

Mr. Wheeler—I think there would be a great loss there right along this line. You people ought to be pretty careful when you go to work. We bee-keepers who are interested financially, and have all our money in the business, do not want to have the inspector come along that is careless in regard to our financial welfare, as well as the bees. Now if it is not absolutely necessary to allow those bees two weeks' time before you cut out the combs, we don't want to have to do it. In regard to this man asking if that colony is of any value, it certainly is of value. The colonies in the spring may show a little of that disease, and they want shaking out and may gather hundreds of pounds of comb honey in that season. And right there is where you people ought to be a little careful. We ought to have scientific investigation; we ought to have some definite knowledge to go by, and not be haphazard about it, and have a man come along and say two or three days or two weeks, it doesn't matter. We must understand what we are doing. It is a matter of thousands of dollars of importance to us.

Mr. Smith—I said two weeks. I said that is as long a period as I have known parties to let their bees remain and change them. But about four days is what I tell them. Leave those in till they have exhausted the honey, about four days, and then change them back onto other frames or foundation.

Mr. Wilcox—Wouldn't it be better to put them on empty frames than foundation?

Mr. Smith—I do, as a rule, but a great many men have

starters of foundation in their frames, and they don't want to take the starters out.

Mr. Whitney—You said you found foul brood in this region along the west part of the State, and along the Indiana line. Do you conclude from that that foul brood is prevalent along water courses, or in damp, low locations, rather than dry?

Mr. Smith—I can't say as to that.

Mr. Whitney—It seems to me that it would be an index if you found it in that locality and not in the dry ones.

Mr. Smith—I found some counties along the Illinois River from Peoria south until we get down to Pike county, where I have not heard of any foul brood. When you get down to Pike county there seems to be considerable of it.

Mr. Dadant—I think I have an answer to that question, whether foul brood will be produced in damp places. Colorado is about as dry a State as there is, and, I believe there is more foul brood to the thousand colonies there than there is in Illinois. California is a very dry State, and they have considerable foul brood. I think a great many colonies has more to do with foul brood than temperature or moisture. We find when things are congregated in large numbers there is more chance of disease; that cities have more disease than farms. In the production of crops a small vineyard will have very little of the black rot, but put them together and it will start somewhere and spread through the vineyard; and I believe you will find the same thing where large vineyards are, and where a number of bees are kept together. I believe that is the main secret of all the diseases. I would like to add with regard to foul brood, it is very difficult to say some things positively in regard to the treatment, as I believe there are different degrees of foul brood, as there are different diseases of the throat. Some foul brood is more malignant than others. Therefore you need more care, in which case the inspector has to judge as to how much care he should use. In regard to beeswax, I have never had foul brood at home. We have bees in the apiary where we have our comb foundation making. We get beeswax from all parts of the Union and foreign countries; our bees have access to the beeswax before it is melted. We find it difficult when we take in materials to have very close-fitting doors, so they are opened most of the time in the summer, and we have the bees in there a good part of the time; we have never had any foul brood from it. Therefore I conclude it is impossible for beeswax to give foul brood, and the reason is this: When beeswax is melted it soaks into whatever it touches. If you dip your finger in hot beeswax you find it very difficult to work it out, although the moisture in the body would be apt to throw it out. Take one of those foul-brood germs and soak it in beeswax, and you deaden it and render it absolutely harmless, and it surely could not reproduce itself.

Mr. Reynolds—Mr. Smith states that a swarm hived on foundation with a young queen is not as likely to have foul

brood as the swarm shaken from a colony would be. Would it not answer the purpose, instead of keeping those bees so long on foundation, to catch the queen and prevent her from laying, as Mr. Smith says, and close the entrance for four days and they would consume the honey, no matter what the honey-flow would be?

Mr. Smith—That would be a very good idea, I think, to catch the old queen to keep her from laying. It takes a brood or an egg to develop, I think it is nine days until it



The late MRS. L. HARRISON.

comes into a fully-developed pupa—as we call it when it fills the cell ready to cap; that is the time that foul brood attacks the larva; and after the bees cap it, then it goes into the nymph state. I have never yet found any bees in that stage of growth or development that were affected with foul brood. It seems that the tissue of it gets so tough that the spores do not enter it.

Mr. Moore—One gentleman has raised the question as to the great damage that is likely to be done to a bee-keeper by the inspector. I want to ask these people who have had experience in this matter, what is the probable

profit from a colony of bees that has foul brood during the season, supposing they are run for honey? Never mind the question of getting rid of the disease, but what profit will you have from those diseased colonies through the season? And what is the damage to the honey crop by the legitimate treatment?

Mr. Root—If I might answer that question, from my own experience I would say, generally speaking, there would be no profit. If the colony could hold its own, if I allowed the disease to run and didn't do anything with it, it would be not a case of profit, but a case of profit and loss, with particular emphasis on the word "loss," with the chance of infecting the other colonies.

Mr. Reynolds—Some inspectors might be a little more partial with some than others. There is a point there to look at.

Mr. Snell—I would like to ask Mr. Smith if he has found any foul brood in the northwestern part of the State?

Mr. Smith—Yes, sir; in Whiteside county there is a good deal of it.

Mr. Wilcox—I want to get this clear to my own mind. I have never found foul brood in my apiary, and I hope I never will. I understand from all I have read of it that the disease is transmitted only through honey. Is that correct?

Mr. Dadant—I believe that is a mistake. Cheshire described foul brood as *Bacillus alvei*, and he found it even in the body of the queens. Now, of course, I couldn't answer for what Cheshire said, but he is one of the best authors on bee-culture. Cheshire was a scientific man, but he was not practical; he was not a man who produced honey. He found germs of foul brood in all parts of the hive. In cases where you cure it so readily I don't believe you have the true, dangerous foul brood. Therefore I think we should be very particular. I don't think we can go any too far. Where you cure it by simply transferring the bees, that is well. I don't think you should expect to do it in every instance. I believe there are dangerous cases where you will have to transfer the bees and destroy the combs, over and over again. I don't believe you should stand to the statement that foul brood is only in honey.

Mr. Root—Prof. Harrison gave a paper on that in the Canadian report in which he stated he had found the *Bacillus alvei* in the ovaries of the queen, as Cheshire has said. But I wish to say, in opposition to that, I have personally introduced queens from the worst colonies we have had, into healthy ones, time and time again, and never saw the disease carried in that way. I don't mean to say it cannot be done, though. But the experience so far as I know over the country has been to the effect that queens may be taken out of these diseased colonies and put into others, and the disease was not transmitted. Why, that is so I don't know, but that is the practical result of it.

Mr. Dadant—Perhaps in this matter the scientific men are deceived by some circumstances. Now, where a man

dissects a queen he evidently has to kill her, and those germs of *Bacillus alvei* are very difficult to produce. It may be a colony partly infected. When he examined the queen the germs have developed since the death of the queen, or in such a way that if the queen had been alive and well she would not have had any germs. At the same time, we must be very cautious and not assert. In this disease it is better to be over-cautious than insufficiently cautious. Therefore, I believe we should be very careful. In regard to boiling, I believe it is a mistake to say it will take three hours of boiling to destroy the germs. At the same time there are



The late THOMAS G. NEWMAN,
First Honorary Member Illinois State Association.

men who have found germs after three hours of boiling. It may be they got those germs in a short time after the boiling, before they made the examination, and I am inclined to believe that, because I think anything that is boiled in the matter of life will die. But in such a dangerous disease we must be very careful in asserting the danger does not exist under such and such circumstances. We may say it is not probably. As Mr. Root says he has not found it, therefore I would be inclined to think he is right, but at the same time we must be very careful not to assert the disease does not exist in all parts of the hive.

Dr. Miller—Calling attention to a point that might be misunderstood in what Mr. Dadant has said, the fact that the germs of foul brood may be found in the body of the

queen, does it necessarily follow that the disease will be conveyed by that? It may be there without being conveyed. But going back to the point before: Will foul brood be carried in any other way than by the honey of the hive? If the germs be carried from a diseased colony, no matter what from, the disease may be conveyed to another hive. The germs are in the brood. Isn't it possible that that might be carried, sometimes, as well as the honey? I suppose it is true that the honey is the principal medium, and the usual medium, through which the disease is conveyed, but surely it is not the only medium. If the diseased part itself of the brood be in any way carried from one colony to another, that would surely carry the disease.

Mr. Wheeler—That is a good point the Doctor makes, and one that is very important. The bees are continually taking out that dead brood. I believe when the disease first starts they keep it all clean. I believe the hive for months is perfectly free of any signs of foul brood, and yet they have it and we don't know it. They keep carrying out every bit of foul matter and finally they have to give up in despair. All this time that foul brood has been carried on the bottom-board and after a while some of it is left. Now, the question is, Is the foul matter that is carried out infectious? That is something worth inquiring into. The question is whether we had better fumigate our hives and burn them out or not. Some say yes, and some say no. It is an important question.

Mr. Abbott—This whole question hinges on how the disease gets into the animal. We lose sight of that sometimes. Take for instance some germ diseases that are communicated to human beings, such as tuberculosis in which the germ that produces that must find a lesion some place. If there is a lesion on the outside of the body in some of the glands and it lodges there it will take root and produce the disease, so that you have tuberculosis of the different organs. It is not always in the lungs. A great many people die of consumption that never had anything the matter with their lungs; that is, from tuberculosis. As I understand, the development of the germ of foul brood is only in the larva. In what way does the germ get into the larva? Does it get into it by contact and communicate itself by coming in contact with the larva, or is it taken in by the alimentary canal? There are some diseases that the human family get that are taken in by the water they drink, such as typhoid fever, and must be taken in in that way; they cannot be communicated by coming in contact with a gland, but they must come in contact with the inside of the human body somewhere along the alimentary canal, mostly in the lower bowels in typhoid fever. Now, then, if foul brood is a development in the larva, in the alimentary canal, and it can only be communicated by passing in in that way and coming in contact with certain portions of the larva, then it must be something that the larva will eat, to have the disease communicated. The larva does not eat anything but honey,

or the thing that might be mixed in the honey. Now, whatever does not mix with the food of the larva cannot carry the disease, as I understand it. So that the question is, What condition of things must exist in order that this germ be in the stuff that is fed to the larva? Because the germ is harmless in honey, is harmless every place so far as the disease is concerned, except it is in the alimentary canal of the larva; and if there is not some way by which it gets in there, it is as harmless as a chunk of sand, as I understand it. It only gets in through the feed, and they only feed bees honey, and the hive may be covered with the germs and not affect it in the least.

Mr. Dadant—I think Mr. Abbott was asking me the question. I think he is very correct in that matter, and the fact is, I was about to rise to make the same suggestion, with this addition, that it is stated by authorities that formic acid, which is the constituent of the poison of the bees, is an antidote for foul brood, and that would explain why the bees never have foul brood and never suffer from it. The bee carries its necessary antidote with it. It is quite likely that the disease could only be transferred to the larva by or through the honey, or through other larvæ which, of course, would pass it to the bee, and the bee pass it back to the larva in feeding. It seems to me that is very conclusive. At the same time, if there are any germs at all in the hive, and they can be passed at all so as to be fed to the larvæ, it will promote it.

Mr. Wheeler—You know if you put a clean super on a hive of old combs and the bees go to work there, they will drag from those old combs out onto the new comb and will color them. Now isn't it possible for the bees to travel from the bottom-board around this bad brood and drop those bad spores? Such questions as that are of vital importance, and I think a little of the money that is raised ought to be used for investigation, not entirely for going around and doing this business. While I think you know all these points, some man ought to be hired and paid for his time. It is either yes or no; they either give that disease in that way or they don't, and some man ought to be able to find it out.

Mr. Swift—I think the bee-keepers will find the treatment of foul brood is something like the practice of medicine. What was first-class practice 25 years ago is bad to-day, and it is only by experimenting and testing that we will ever get at the right thing. There is no question—I found a doctor here just the other day who told me that operations that were frequent two years ago are condemned to-day by the bulk of the profession, that is, by the advanced profession, and yet they were the popular and proper thing two years ago. It may be the same thing in regard to foul brood. Tentative work is the only thing.

Mr. Root—Mr. Abbott has struck the key-note, it seems to me, as to how foul brood is transmitted. If we take Mr. McEvoy's experience, and the experience of foul-brood inspectors, it does not seem to be transmitted by the hive ex-

cept through the honey, and if this theory is correct it solves nearly all the trouble. The danger lies in shaking the combs and using them over again, because in shaking the combs you may shake the honey onto the hives.

Mr. Wilcox—I am not going to shed any light on the subject, but I wanted to finish the thought presented by Mr. Wheeler. He said we should spend some of this money for investigation. So far as I am concerned, and many others, we came here for that very purpose, to investigate. I didn't know where to go to find men better informed on the subject.



F. WILCOX.

I don't know how to conduct an examination or investigation that would be more satisfactory than to be at a convention with such men as we have here. If we cannot learn it from the combined wisdom of previous bee-keepers in the country, I don't know where to find it. That is the way to spend the money.

Pres. York—I think Mr. Wheeler meant that we should have scientific investigation by scientific men.

Mr. Moore—I want to take exception to Mr. Wheeler's remarks. He says we must not go ahead with this thing until we know exactly where we stand. That would apply

to everything in the world. You must not try to keep bees until we know all about it. How do we learn except by starting and using the things we know? The idea that we should not try till we know all about it is all bosh. Where would our medical profession have been on that basis? Mr. Wheeler says the bees will take these germs and scatter them all around, and then those foul-brood germs will get everywhere. Dr. Howard gives the answer to that. By exposing foul-brood germs to light, air and dust they die. We know that light and air and dust are present everywhere. Ask your wife, if you don't believe it. And those foul-brood germs scattered anywhere are exposed to light and air and dust, and that is fatal to them. Some more scientific man than myself can tell you how soon. Two of our members have said that which is an insult to our intelligence, and to inspectors everywhere; they say we are going to favor certain parties; that we are going to be prejudiced; that we are not going to do right. Every man who has ever gone around inspecting bees knows that is not true. We are meeting everybody, and I tell you we are human; we want people to like us; we want to be popular, and the way to do that is to do right, and to be just, and honest, and help our brothers where we are right.

Dr. Miller—How can you favor?

Mr. Kimmey—By skipping foul brood and saying it is not foul brood.

Dr. Miller—Suppose you do skip a man, would you favor that man by doing it?

Mr. Kimmey—Of course you wouldn't.

Mr. Wheeler—I was misquoted, or misunderstood. I didn't say it was best to do nothing till we found out everything. That is a misstatement. I don't mean that. I didn't say anything of the kind. I believe all such investigations are good, but I believe there is no use going to an extreme in the matter, and doing things that are unwarranted, until we have good ground.

Mr. Reynolds—I will relate my experience in that regard. Mr. Moore came to my place last July about 20 minutes to 12, and asked how my bees were getting along, and I told him pretty fairly. He said, "Have you any trouble?" I said, "Yes, with one hive; it is marked there. He said, Light the smoker and we will go and see it." We lit the smoker, and just then my wife put her head out of the door and said dinner was ready, so we went and had dinner. That was the end of it. A neighbor of mine acknowledges that his apiary is rotten with foul brood, but a short distance from me; he hasn't the money to clean it up. I sent Mr. Moore to somebody else whose apiary was fairly rotten with it, and he left orders there as to what was to be done. The man came to me to ask me to help him out, and I told him I didn't like to go there amongst his bees for fear I would carry it home. Mr. Moore said to me he would be glad to put in a few days more if he only got his expenses. I told him to write to him and get his address. This man is worth

over \$50,000 and would gladly pay to have it done. He wrote to Mr. Moore and the letter never came back, and Mr Moore has never answered. I was there nine times trying to get that man to do it. His wife said to me he would be fined if he didn't have this done, by the State. After that I could do nothing. The bees are all hanging in five frames in soap-boxes to-day.

Mr. Moore—I had no appropriation for answering letters, but I paid the postage and answered every letter as far as I know. It was wholly unintentional if anybody was neglected. I answered a number of inquiries where I couldn't personally go.

Mr. Smith—I will just say for the information of Mr. Wheeler, that there is now in Washington a scientific process. Mr. France is on his way there with foul brood, and the best scientists in the United States are trying to solve that problem, and it is better than we inspectors can do, and we expect information from there that will be published in all the bee-papers.

Mr. Moore—I feel very deeply in this matter, to state that any man who goes abroad and tries to help the bee-keepers ought to go for two years to the Agricultural College at Champaign and take a regular scientific course in entomology and microscopy. That ought to be done. The question is, Who is going to pay for it? I was appointed by the chief inspector, Mr. Smith, as deputy inspector. In the pursuit of my duties I spent 33 days calling on bee-keepers within my reach. I followed a totally different scheme from my chief, Mr Smith. He gave me no instructions as to what I should do. So I took the addresses that I had of the members of our Association, and there is something like 300, and attempted to call on everybody. It was published in the American Bee Journal, and we tried to advertise to every one that we would go and see whoever called for us within say 20 miles of Chicago. But we got no responses. I think there was one or two who wrote to me, suggesting that they would like a visit. I called in, on my own plan, and out of 135 apiaries I found about 25 diseased. Now, you see, if I had attempted simply to go where there were complaints I would have had two out of 25. I found 23 diseased apiaries by dint of calling on everybody and examining the hives in the apiary that seemed to show disease or weakness.

Dr. Miller—How many of those 23 knew before you called that their bees had foul brood?

Mr. Moore—Not to exceed two or three. I would have to guess at that. They knew that the bees had not done as well as they did some time before, and they had not gotten any honey from that hive or from other hives, but that they had this awful disease that we understand as foul brood, they didn't know.

Mr. Dadant—Were they foul-broody in every case?

Mr. Moore—You understand it is a great deal easier to ask questions than answer them. I myself had about 35

colonies and lost practically the whole thing with foul brood. I had no experience with it, and it got into a dreadful state before I knew it was foul brood; and I didn't go at it in the scientific way that Mr. McEvoy and Mr. France teach, and that we all practice nowadays, and the result was I lost the whole thing. I found foul brood in quite a number of different stages in the honey. I saw foul brood, as I say, in those 25 apiaries, which would mean 75 to 100 colonies affected; and after a while one gets the idea in his head, and I am satisfied now that I know foul brood when I see it. It is not necessary to smell anything at all to find foul brood. The expression has been used that one who cannot tell foul brood in his hives when he smells it is not competent to treat the disease. I believe that is true, because you can see foul brood with your eyes a long time before you will smell it at all, a good sunlight helping you. That shows to me that the disease is much more widely distributed than any one has an idea. I believe the only way to do these things is to make a clean sweep of them. With infectious diseases we make laws to protect the public and we don't care a snap of the finger for the individual who is injured, as long as the welfare of the entire people is at stake. Some laws are made paying injured individuals for the loss of their goods, such as cattle and some other things, but as far as I know there is no law in the United States compensating any bee-keeper for the loss of his bees. Now, the reason has occurred to me why. Under our accepted treatments—we call it the McEvoy treatment—you can save your bees in a great many cases. If you go to the Legislature and say, "We can save our bees, but there is a big loss there, and we want to pay the bee-keepers for it," they won't understand it. If you save your hives and bees they can't see where there is much loss at all; and the duty of the inspector is to help you, and give you a money value, of course, in helping you to eradicate the disease and to save your bees and hives. Consequently, they would not give any compensating clause in any law to that effect. I made a minute of every case, and I can tell you the names, number of colonies they have, and the number of hives infected, and what I said. It would take a month if I would attempt to cover that ground.

Pres. York—Did the foul-brood inspector visit all the bee-keepers in this (Cook) County?

Mr. Moore—Not by any means. In Cook County we have from 350 to 400 bee-keepers, and my total visits were 125 or 135 calls.

Mr. Wheeler—Did you do any work in helping to get rid of the disease?

Mr. Moore—I did everything that was possible. Where there was an opening I made appointments and went back on other days and helped them cure the disease. I spent in some cases half a day with individuals to see the thing was done properly. I am green along side of these people who have made a life study of it; I feel as if I were in the A B C class. I don't want any one to get the idea that I think I

am an authority on this subject, but I want to contribute my information for the general good. The people all over our State are not competent to treat it any more than they are competent to treat a case of diphtheria or typhoid fever.

Mr. Wilcox—How much is a diseased colony damaged by treatment?

Mr. Moore—Every day it is without any treatment?

Mr. Kimmey—Yes, of course.

Mr. Moore—I say it is not damaged one cent's worth.

Mr. Wilcox—How much do you have to treat those which are not diseased?

Mr. Moore—I don't like to answer these questions because it means more experience than I have had, but I give my opinion. I go to a man's apiary and he has 20 or 30 colonies. How am I to tell which is diseased? We usually go from May to September. At that time of the year the colonies are prosperous if they ever are. We walk up and down the rows of bee-hives and we talk to the owner and say, "Now, which colony has not been prosperous?" He says, "This one." We open that hive. Something is the matter with that colony; it may be queenless, it may be entirely dead, or it may be nearly dead with foul brood; and with or without smoke we open it. Almost at a glance, when you get a frame out from the middle of the brood-nest you can tell what you have got. If he suggests this or that hive we always open that. If you are not satisfied with what he suggests, say, "All right, I will look around a little." You open one, two or three hives and you have a general view of the situation. When he has 10, 20 or 30 colonies we don't attempt for a moment to go through them all.

Mr. Wilcox—You treat them all whether they are foul-broody or not?

Mr. Moore—Under our law we have no power to treat at all; we have simply to give advice. If they allow us to treat we are glad to do so.

Mr. Wilcox—What I want to find out is whether there are any damages to be paid for it?

Mr. Moore—Whether there ought to be a law giving damages to the bee-keeper? There should not, in my judgment.

BEES AS PROPERTY, AND ASSESSABLE.

Mr. Swift—Our bees as property are not assessable under the laws of the State of Illinois. If they are not assessable and produce no revenue why should the State pay revenue back? Take cattle or any animal that is diseased, every one is assessed upon that animal and pays revenue into the State.

Dr. Miller—They may not be assessable but they are assessed; I pay taxes on my bees.

Mr. Swift—You don't have to. They are not assessable.

Mr. Moore—You are a little in error, Mr. Swift, in the schedule is a clause which says, "Other property." Now to a really conscientious man, if he calls bees property, he ought to list them; and I know of two or three who list them and

are assessed. Now if we are assessed, that will give us certain rights before the Legislature.

Mr. Swift—The only thing is this, bees come under that class of *feræ naturæ*—they are wild by nature; and consequently anything of that character is like a flock of prairie chickens—the farmer does not have to pay taxes on them. Bees are not assessable under the revenue laws of the State of Illinois unless a man chooses to list them as “other property.” Consequently this is my opinion. The Supreme Court may differ from me—I am not certain it has ever been adjudicated upon by the Supreme Court—but I think they are not assessable from the very fact that without any provocation a colony of bees does sometimes take wing and go away in the spring. It is the very fluctuating character of the thing. A man in the fall might have 100 colonies, and in the spring he might not have more than 15, and according to Dr. Miller, then, he has to go before the Board of Supervisors and the Committee on Payments and present his claim for the loss of his property, unless he chooses to pay on something he has not got. Under those circumstances, the bees not being assessable, by the very nature of the property, as property that is fixed and tangible is, that can be gotten hold of or levied upon—because I don’t believe there is a sheriff in the State would levy on a hive of bees—by that very fact you could not go before the Legislature and ask any law that would give force that a bee-keeper should be recompensed if his bees were injured by being treated for foul brood or any disease. But if you can get the Legislature to recognize that this is a source of revenue for the State, and of wealth to the individual, and his wealth in that way can be assessed and taxed as his money and household goods and the things he can buy as the result of his product, then they will legislate and will do what they have done in the past—give you any appropriation for the protection of that industry. But when you come to ask for recompense for injury done by making the injured better, you have gone up against the wrong thing, and will meet a snag every time.

Mr. Dadant—I would be very glad to hear bees are not assessable. I have been paying taxes on bees for many years. The argument is very good but it is not only bees; there is the hive, the combs, the brood, the honey, the supers and sections of foundation and all that belongs to the hive. I pay taxes on my bees; I pay taxes on the comb foundation I manufacture. All this belongs to the bees. If the bees are not assessable, and all this other part of the property is not taxable, I have \$15,000 worth of goods on hand. I have been paying taxes, and I would be ashamed not to pay taxes.

Mr. Swift—Mr. Dadant does not bear in mind that he is in a manufacturing industry.

Mr. Dadant—We would suffer from foul brood if our bees had it.

Mr. Swift—You say your wax does not get affected by foul brood. As a manufacturer with an industry with a capital stock, then, you would be assessed upon it whether in-

corporated or as an individual; but here is a man that has got 50 colonies of bees on his farm—I don't believe he can be assessed on them. If a test case was made, from the very fact of its fluctuating character, I do not believe he could be assessed. The honey might be assessed, and possibly the hive, if you could fix what the value would be, but not that which deteriorates and is so fluctuating it would be almost impossible to determine. But the product of the bees in his possession is property that is assessable. Just the same as in your commission business if you have a thousand cases of honey in your warehouse on the first day of April you are assessed upon that, upon its market value, upon a fifth of its fair cash valuation. But upon bees out in the field there is no assessment. I don't believe it ever can lie.

Mr. Colburn—I had hoped to continue this discussion on foul brood because I am particularly interested in it. I am no lawyer, but listening to the gentleman here I want to say this, he makes a particular point of *feræ naturæ*. I want to ask if the wild ox and the wild goat and all animals were not at one time *feræ naturæ*? Mr. France has a great many papers here pertaining to the legal status of bees. Quite a number of decisions have been made lately in regard to that very point. Bees sometimes leave my premises and go on the premises of my neighbor. The question is whether I could go after them or not. Mr. France might be able to tell us about the legal status. As to bees being assessable in consequence of their fluctuating nature, you might answer the question by saying a man might have 50 cows on his place and they may all die. Therefore I don't consider that is a good argument in that view of the case, for the assessor doesn't care a cent what is to become of that property; if he finds it in my possession he will assess it. The big factories up in the stock yards have a million, or two million dollars' worth of pork piled up there. When the assessor goes around it is all in New York, but if it is there he will assess it. The same way with bees. I think they are assessable if they are there at the time the assessor comes around.

Mr. Kimmey—I want you to indulge me just a minute. All of these men who have talked want this discussion stopped. I am responsible because I asked the question. I used to be a lawyer myself. I didn't know much law and have forgotten a good deal I once knew. But I commenced in 1868 in the business and have been connected with it ever since, and after listening to Mr. Swift on the question whether bees are assessable or not, I believe he is mistaken.

Pres. York—They used to be when you studied law!

Mr. Kimmey—You men that have been convicted at law don't say anything. You remember the Irishman who said, "I don't want to go to trial." The judge says, "You needn't be afraid, you will get justice, and be jailed." He replied, "That's just what I don't want." [Laughter.] It is true my bees go out on my neighbor's lawn and gather their honey, but it is also true that bees have been recognized by the laws of this country as property, but prairie chickens have not.

You can steal bees but you can't go over to the other man's farm and steal prairie chickens. Of course you can commit trespass. But when you steal a colony of bees don't you believe they are *feræ naturæ* and that you can get out of it. You will go to the penitentiary, probably. He can sell the prairie chickens after he shoots them.

Mr. Smith—He can't sell them after he shoots them.

Mr. Kimmey—There is another fellow that has been caught. [Laughter.] If you obey the law you can shoot them. There is a certain time of the year. Do we want to say we are going to own property that is valuable to us, out of which we make our living, and that it is not assessable? If there is any such idea as that let us be honest and fair and drop it. If they are not assessable I think they should be made so. I rather insist upon Mr. Moore making a statement because he came to my house and we had a peculiar experience down there. Mr. Moore came to me from visiting an educated gentleman, a man that knows all about the anatomy of the bee and foul brood, and that sort of thing, and Mr. Moore told me that this gentleman had one case of foul brood. I had never seen any and I wanted to see, and feel, and smell it. I went up there and I told the gentleman that I wanted to see the colony of bees that Mr. Moore said had foul brood. He says, "You can't see any foul brood here." He also said he had once been cleaned out entirely by foul brood. I was ready to believe there was something there. I know he bought some bees of another neighbor who had foul brood. I had some of the same bees; in fact, the only ones I had to commence with came from there. I was interested in it. He said he had a small nucleus that was doing fairly well and in the meantime had a hive full of comb, no bees, and he wanted those bees to take care of that comb, and so set the hive with the comb on top of the nucleus. Consequently the queen and some of the bees moved out, and then came the cold weather last spring and the brood in the lower hive died. I was ready to believe that story. He also said that Mr. Moore said he was not an expert. I suppose Mr. Moore said the same things to him that he said this morning. I took it for granted there was no foul brood, and didn't insist upon an examination. It seemed to me, then, and it seems to me now—I want to be frank and fair about it—Mr. Moore either ought to know what foul brood is, without going two years to the agricultural college, or else Mr. Moore ought to stop inspecting. I believe after hearing him talk here this morning that the bees of the gentleman I referred to had foul brood, and that Mr. Moore knew it. I think he wants to shake off some of his modesty and say he knows foul brood when he sees it. I want to mention another thing this gentleman told me. He said, "Notwithstanding I believe there is no foul brood I am going to burn that thing up, hive and everything," which he did that night; and I believe that is the proper spirit that any one should show even though one may have a doubt in regard to it. A hive of bees of course is not of much consequence, but if he finds it in one,

and there is more than one hive, he should be willing to investigate. Mr. Moore came to my place and looked my colonies over and did it in a very thorough manner, for which I am obliged to him. I said, "How much do I owe you?" He replied, "You owe me just one dollar, and I want you to pay it to join the Chicago-Northwestern Bee-Keepers' Association. I want to state the facts, and I am impelled more to say it by the remarks the gentleman made in the rear of the room. I believe Mr. Moore has done his duty, and he is a good man, and I don't want him to go around saying, "I don't know," when he does.

Mr. Moore—I am not correctly quoted in the case which Mr. Kimmey has mentioned. The gentleman Mr. Kimmey referred to merely plays with bees for pleasure. He told me he had practically been cleaned out with foul brood, but that he hadn't any at that time; and I certainly told him, as I have told everybody, that I knew foul brood when I saw it, absolutely, and I do know it. When it comes to these scientific matters, in which every subject is involved if you come right down to the very bottom of it, I say I am not an expert, as Mr. France or Mr. McEvoy is, because I have not got their years of experience. But I absolutely know foul brood, and I told that gentleman so, and he said, "I haven't got it." We examined one or two of his hives and the bees were very cross; I got stung repeatedly. We had smoke, too, lots of it. When we got done with that hive I showed him he had foul brood, and I showed him the proofs of it, and he admitted that it was foul brood. There was also pickled brood in the same frame with it in the same colony; and he didn't deny to me at all he had foul brood in his apiary.

Mr. Kimmey—When Mr. Moore was in our section he went to every bee-keeper he could find, and spared neither time nor pains in going to the bottom of all of them. I gave him the name of every bee-keeper I knew within five or six miles, and I understand from hearing from them that he visited all of them.

Dr. Miller—I have a resolution to offer: "Resolved, That it is the sense of this Convention that it is desirable that bees should be assessed and taxed."

Mr. Smith—I might say that that same resolution was passed at the State Bee-Keepers' Convention two weeks ago, in Springfield.

Mr. Moore—I want to correct some of these lawyers that are talking about common law and State law. Whenever the Illinois Legislature raises its hands it wipes the common law off the land.

Pres. York put the motion, and a vote having been taken it was declared carried.

BLACK BROOD—PICKLED BROOD.

Mr. Colburn—We hear about black brood, and this summer I ran across two or three symptoms in my apiary of something not exactly like foul brood. Some four years ago

up on the North Side I had an apiary and I had something I didn't understand, so I sent a portion of the brood to Dr. Howard, and he returned it stating it was not foul brood, but pickled brood. This year I have something just like both, and not like either. I think possibly we may be getting a little taste of black brood; and possibly the reason we differ is that we are looking at things from different points, or rather have a different disease; that may account for the discrepancy of symptoms, etc., which we find in different hives.

Dr. Miller—I rise to a question of privilege. I have a whole lot of speeches on foul brood, and I know you would be delighted to hear them, but I think the time is passing, and I believe we ought to hear from Mr. France.

Mr. France—I don't know just what part of this discussion you want. Do you want the description so that you may know without guessing when you look into a hive or not?

Dr. Miller—Give that first as briefly as you can.

DETECTING FOUL BROOD.

Mr. France—There is one thing of vital importance to Illinois, that the State Association and the Chicago-North-western, now made a part of it, hand in hand together work for the needed legislation this winter, and not wrangle so much over other things. I am on my way to Washington to help Prof. Benton get out a bulletin, of which there will be published 50,000 copies for free distribution to the bee-keepers of the United States, on the diseases of bees. I find that educational literature on this subject will do as much good as inspecting. As soon as we can get the people educated I question if we will need any inspectors. [Applause.] As I said yesterday, unfortunately in our State I find a very small proportion of the bee-keepers who read bee-literature, and it is going to take some time to get them educated. Until that time we will have need of those other devices. To those of us here who have not seen foul brood, this sample I am taking with me to Washington—(by the way, it has odor enough)—is a sample procured out of a hive in the city of St. Louis while I was down there at our National Convention. That disease was contracted from your State, across the river, by bees robbing from the city of St. Louis, so that your State transmitted it over there. It is a very serious case of disease.

Mr. Wheeler—How can you prove that?

Mr. France—We prove it in this way: The strongest colonies of bees that this man had in St. Louis were, in the fore part of the season, very busy bringing in honey and apparently robbing from somewhere. He took chop dust and put upon those bees so that he might see how long it would take for them to go and come back again. He got the time, and he discovered them all going directly east across the river. He went across the river and found a bee-yard infected with foul brood, and these bees with the dust on, going in and out.

Mr. Wheeler—Did he have other colonies?

Mr. France—Yes, there are three others that have stolen

away from this naughty colony which was the strongest, and to-day is a dead colony in the hive. Now the disease in appearance varies according to the localities, but I find some few things that do not vary a great deal: The sunken capping; the ragged, perforated holes in the capping. I believe in all the States that is common. The bee in the larval age, at about six to eight days from the egg, will first to the naked eye show the appearance of the disease; earlier than that you would need a glass. I am taking this from the point of those who want to use just the naked eye, as you can't, without a glass, see it before that. The bee will, in the larval age, instead of crawling around as it should, stand upon the point ends of that larva with its back up. It is diseased, in agony, and in that condition it does not lay down naturally. There is a little yellow cast on either side of the back. It finally straightens out the same as the natural larva, and in standing up it lacks the vitality to retain itself in that shape and falls back again to the lower side-wall of the cell. That is the time that the larva will make itself adhere to the side-wall and will never let go.

Now, there is a marked difference between black brood, pickled brood, and foul brood. Foul brood, when it once strikes the lower side-wall, stays there as if fastened with glue. The bees can not remove it except in one way. If those combs have been thoroughly fumigated with formaldehyde it has a chemical action on those and they do remove it in some cases, but not in all. That bee in the last dying effort gets quite a dark color, and it throws out its tongue frequently with force sufficient so that the tongue strikes the upper side-wall and as such will hold as if put there by glue. That will have a tendency, as the body of the bee dries out, to draw the head up. This tongue has a tendency still to hold, and in the sample I have here there are many of those larvæ at that age with the tongue still holding thread-like to the upper side-wall. That is the only reason I can give why always in foul brood the head of the larval bee has a Chinese-shoe-fashion or turn-up; it is because of that.

Now, the body of the bee becomes flattened and dark-brown, nearly coffee-color, and just at that point in giving way, as it drops down, there is a dark, very nearly a black streak across the body of the bee, and apparently on either side little brown streaks that will remain in that condition for about two days. It will continue to dry on the point on the lower side-wall until it is no thicker than the side-wall of the comb, sometimes even thinner than that, but the head end of the bee having dried in that curled-up shape shows itself to the eye much quicker than the balance of it further back.

[How to look at the comb is one of the most important features that the bee-keepers of our country have not learned. They take a comb and hold it looking straight down into the cells. I confess I can't see foul brood in that way. For the benefit of this bulletin we are getting out, I went to an artist the other day with this comb and told him I wanted to be

photographed, but to take the picture from the rear. I wanted to show how to look down in the comb. As an illustration we will suppose this to be a comb of foul brood, and I want to look into it and there is the light—and by the way, never take candle light or electric light—you want good day light in order to see it satisfactorily. If I were to hold it upright, and stand with the light coming over my shoulder, I would still look down into the bottom of the cell and see no foul brood. But let me tip the top towards me so that



Proper Position to Hold Foul-Broody Comb.

my eye looking in there will strike the lower side-wall about one-third the length towards the base, then I will see those black-brown heads readily all through the comb. You need never question it. Black brood or pickled brood will never have the appearance that foul brood does. In every state where I have found it, there is a marked difference. This photo is simply showing where I am holding up the comb. I made a streak on the negative showing the angle of the rays of light. It should be coming over the shoulder, and then tip the top of the comb towards you.

Mr. Wheeler—Have you learned anything definitely this last year about fumigating?

Mr. France—I took one apiary badly infected where there were several hundred combs, and from the fact that formaldehyde gas is one of the best disinfectants the medical world has to-day, there was a great possibility, and I had a box made by one of the best carpenters, which was perfectly airtight, all jointed, and white lead put in the joints. I put in that box quite a number of combs, leaving about an inch and a half space between each two combs. I had Mr. Weber's lamp and followed his directions with one exception—I gave twice the amount, and doubled the time in which it was fumigated. I aired the combs, and two days later I put them back into clean hives, put the bees back on those combs, and went to Los Angeles to the National Convention; came home, went immediately up there, and by the time I got back they had the brood hatched. In about three-quarters of those hives I found foul brood beginning to appear. I went to further investigation on the case and I found this, that every frame I had fumigated had here and there a cell that was capped over at the time. Those that were not capped over the bees had cleaned out, and I could not see any foul brood, but where they had not taken that capping off, seemingly the chemical properties of the acid had not destroyed the germs, and the brood in those cells was diseased. So that if I were to fumigate combs I should first uncap everything sealed and put it in an extractor, and I would throw that brood till I was satisfied I had thrown everything out of it possible, and then fumigate it. There is a possibility, but bear in mind we are running a great risk and I would not recommend it. I have carefully weighed the combs, carefully weighed the wax rendered from a set of combs, and considered the price of foundation, and in Wisconsin we can change a hive infected with old and black combs to comb foundation at the cost of 12 cents per colony. Why do we put any stress upon the loss in that line? Those bees have as much new vigor and ambition to work on foundation, over the other one, as a boy has over a new suit of clothes.

Mr. Wheeler—We have heard a good deal about fumigating the hive with a spray; there is a man in California that has practised that. He sprays the bottom-board and allows the fumes to go up in the combs.

Mr. France—I have tried that somewhat, but there is a marked difference between California's dry atmosphere and here. I question, with the experience I have had within the last two years, if the hive is thoroughly clean that there is any danger. I put the bees right back into the same hive on comb foundation, and I have no trouble.

Mr. Wheeler—Do you shake them out twice?

Mr. France—Yes. I tried two apiaries by shaking once, and in the majority of cases it cured it, but here and there would be a case in an apiary where it did not, and it would not be safe. We do not lose a great deal if we do this at the beginning of the honey-flow. As an illustration, up in

Central Wisconsin I reached an apiary of 15 or 20 colonies, all infected, quite late in the afternoon or evening of the first day of basswood bloom. The man was a very thorough man; his surroundings all showed it. I repeated to him what I would do with the apiary, were it mine. I said, "Do you understand it?" He said, "Yes." Now as a teacher I learned that the best way to know that the student understood what I told him was to let him tell it back to me again. I said, "You tell me, if you please, what you are going to do with those bees." He did, and I had to correct him only in two places, so I was satisfied he understood how to do it, and do it thoroughly. Thirty days later I returned to the apiary to see what the effect was. The same hives were there and I could find no indications of the disease. That was two years ago, and there is none there yet. So I am satisfied it is treated and cured. And on those hives was from 16 to 18, and on one hive 24 pounds of section comb honey within 30 days after they had been treated. That colony had not suffered very much.

From another apiary that had gone down from a large to a small number, the apiary having been treated, those bees had been taking first and second premiums at our Wisconsin State fair. It doesn't hurt a boy to have a new suit of clothes. The cost is a very minor affair. The worst difficulty with me, for the first few years at least, was to adjust myself to the peculiar condition of each individual bee-keeper. There is the worst feature I find as an inspector. One man is glad you have come, and will do anything, even leave the harvest, if you please, to have that work attended to; the other man is the very opposite—he would sooner you would get away from there; he would promise anything to get rid of you; and the surroundings correspond. That is the man who needs an inspector, not the other man. In order to help out I have taken with me for the last two years a German wax-press, having a case made so that I could check it as baggage. Where I found a badly infected yard, with the class of bee-keeper whose surroundings are not favorable, I take off my coat and I stay there and clean up the premises myself, and take my wax-press and go on. If I leave it to him a neighbor who is making his living out of the business will suffer from the indifference of this friend.

Mr. Wilcox—Have you traced the source of foul brood to bee-trees or wild bees in the woods?

Mr. France—That was brought out very strongly the second year I was out. One man said, "There is no use treating my bees because the woods are full of bee-trees, and you will never get rid of it." I used to hunt bee-trees. So after I had treated all the bees in the vicinity, and before I got through, I found two bee-trees. One of them was where a swarm had gone from an infected hive; it was away over yonder on a bluff. This man said that that tree must be diseased. I said, "On what basis can you argue that that is diseased?" He said, "Why, the bees went from here over there; they carried the honey with them, and I

am dead sure it is diseased." I said, "Wait a moment. What did we do to this hive?" "We took away the combs; we gave them foundations." "Have they got any over there?" He said, "No." I said, "After they had drawn out the foundation we took that away and made them go again and they had nothing; they had to consume all the honey they took with them to produce the first combs, to start to store the honey they gathered from the field, and I will venture the assertion they are not diseased."

We went over and cut the tree down, felling it very carefully, and there was no disease. We cut some other trees and I found trees where the bees had died from lack of protection; and I also found this, that within a year's time after a colony of bees had died the squirrels and the bee-moth will eradicate everything in the interior of that tree; there is no danger left. If the bee-keepers will attend to their end of the work they need not worry over the bee-tree problem. There is just one way a bee-tree might be infected. If a colony has combs drawn and has wintered over, or towards the latter portion of the season they have somebody who is careless, thereby having foul brood, that bee-tree bees could go and rob from an infected bee-hive and transmit it to that tree; but we all know it is a matter of short duration; that colony of bees would not last long; squirrels and moths would soon eradicate what is in the tree. If we do our part we will get rid of foul brood.

Pres. York—What kind of a foul brood law do we need in this State?

Mr. France—Coming out of another State I hardly like to recommend, but my opinion is this: Keep the appropriation you have; put in effect your inspector with authority, and you will accomplish a great deal of good.

Pres. York—You mean as to a compulsory clause?

Mr. France—Yes. Now this comb I have here is an illustration. As I understand this apiary is in your State; your inspector wants to investigate that apiary and has been objected to. Look at the situation. We will take as an illustration a row of these seats, each one representing different apiaries. The inspector comes to this party and wants to look at the hives. "Yes, I am glad to have you come in." The next says, "My bees are all right." The inspector says, "I don't like to look at these, but while I am here I will look at them." The answer he receives is, "You get off the premises." He has got to go. You see the weak point in the law. What would we do with contagious diseases amongst ourselves if our law did not admit of our health warden coming in and saying "this is small-pox," or any other contagious disease, "and they must be quarantined." You say, "No, we have no small-pox; let everybody come in and out." It is just as necessary for your inspector to be clothed with that authority if you would get the desired effect.

Mr. Kimmey—You have considered the possibility and propriety of having a National foul brood law?

Mr. France—Yes, but we have first got to demonstrate

through the States before we get that. It may come to that in time.

Mr. Pease—What proportion of the States have foul brood laws?

Mr. France—I think about nine.

Mr. Abbott—Let me suggest that you cannot have a national law.

Mr. Colburn—We have a pure-food law.

Mr. Abbott—That is interstate commerce.

Mr. Wheeler—What is your plan in regard to appointing an inspector? How is it proposed? I suppose the law will have to be plain.

Mr. France—I think that those who are interested in the line of work should select one whom they think competent. I don't believe it is a good plan to allow this to be a political appointment. Let that man be selected by the State or local association. They know better who they want than any other person, and let their recommendation be of the one who serves them best. They cut out that portion of our Wisconsin Law. I fought it to the bitter end. It was first, "Upon recommendation of the Bee-Keepers' Association the Government shall appoint." The political men saw fit to modify our law, and now it says, "The Governor may appoint."

Pres. York—If he does not care to appoint anybody, you have no inspector?

Mr. France—No, sir, and the State Association is not asked, although it is still recognized. They have asked the State Association. There is another thing they do in Wisconsin. The State Board of Agriculture asked the bee-keepers whom they want to be judges at the State fair. They consider that the State Bee-Keepers' Association ought to know who is competent for that; and the one they recommend has always been appointed. Now in regard to this sample of foul brood, I have here, I will confess this much: In this room, with the light you have to look into, I would guarantee it would be almost a failure to see the various stages of foul brood, from the fact that you would get shadows that you wouldn't get in day-light, but I have illustrated to you how you should look to see it.

Pres. York—I should think now that we ought to be able to know foul brood or almost smell foul brood or something, by this time, as we have been talking about it all forenoon. I was glad to have it discussed, but I was afraid some that were not particularly interested would get tired of it.

Mr. Meredith—My reason for coming here was based almost entirely upon what I could learn about foul brood, knowing that the disease is around Batavia, and I think in an apiary that was inspected by one of the inspectors. If I am going to keep bees I want to be in condition to know when my bees are free from disease, or take such measures to see that they are.

Mr. Moore—I want to speak of a thing that has not

been mentioned here by anybody. In regard to fumigating to cure foul brood, I have taken the same stand as Mr. France and our best authorities, but I thought it was not well to recommend fumigating on the ground that we didn't know whether it was successful in all cases; and, second, it is dangerous to put a knife into the hand of a beginner. It is dangerous to put a remedy we are not sure of in the hands of the average, inexperienced bee-keeper. I had quite a long talk with Dr. Eaton, who, I thought, would be here to-day. He is the chemist of the Illinois Food Commission,



GUS DITTMER.

and we talked about this very matter of formalin fumigation. I said to Dr. Eaton, "Here you have a cup of honey. Down in the bottom of that is a spore of foul brood covered with honey an inch or two deep. If you fumigate that thing for a month or two with formalin what will happen?" He says, "After a while the formalin will unite with the honey. It has an affinity for water, and honey is a solution of water and something else; and you will have a compound of formalin honey, and so on." I said, "What will be the effect on this spore in the bottom of the honey?" He said, "It will absolutely destroy it." I said, "What do you think if

we take our combs of foul brood and shave off the coverings of the cells with a sharp knife so as to expose the honey, pollen and germs of foul brood, if you put it in a boiler of water and jounce it up and down, then put it in the extractor and whirl it like everything so as to throw out everything that is dissolved by the water, and then fumigate a long time, what will be the result?" His opinion was that because formalin combined with the water it would absolutely destroy everything in the comb that was infectious. Now there is a point for these people that have facilities like Mr. France and Mr. Smith, perhaps, to experiment upon. It seems to be a new way of experimenting with formalin gas.

Mr. Dadant—You can't get water to the bottom of the cells by dipping it in water.

Mr. Wheeler—I think that is proven every time you fumigate a hive. From that gas that is generated there is a steam, and there is nothing more penetrating than steam. The combs, after they come out of the fumigation, will be wet with steam. Surely the very bottom of the cells will be saturated by steam from the formaldehyde gas.

Mr. France—Anywhere over the States, since I have been in this National position, the members have taken it as a matter of fact that when they get into any trouble or grievance no matter what it is, "fire" it into the General Manager: and among other things they "fire" in samples of foul brood from all over the States. I analyze them as well as I possibly can, and give a report. But I want to make this one statement: Whenever you are sending samples of suspected material by mail, put it in something so that it will stand the racket in the mail. So many of the packages come all smashed up. I had one come the other day with a piece of newspaper around it and a two-cent stamp on it, and the whole thing was about as thick as a piece of cardboard when it reached me.

Dr. Miller—Put it in what?

Mr. France—The best of all is a tin box next a wooden box. And, by the way, the United States mail people may get after you if you don't.

MAILING INFECTIOUS MATERIAL.

"Would it not be a violation of the United States postal law to send infectious diseases of any sort through the mail?"

Mr. Reynolds—I would say, as one working in the mails, that it is.

BEE-KEEPING FOR WOMEN.

"Is bee-keeping a pleasant and profitable occupation for woman?"

Pres. York—We have not heard much from the women, it seems to me; I think we had better hear from Mrs. Stow,

the vice-president of the Association. Mrs. Stow, what can you answer to that?

Mrs. Stow—Bee-keeping has been very pleasing to me, whether it has been profitable in all respects I don't know, but I don't think I would say that it has not been. I have enjoyed the work with my bees for the last 20 years more than anything else that I have known of, except my own family duties; and the only objection I can see is that there is some hard work about it; that unless she can have the help of a man once in a while, or a big boy, it would be a little too hard for her. But there is so much of the work that can be done by a woman just as well as by a man, that I think it is all right for a woman, if she has the taste to go into the business. I like outdoor work, and enjoy nature and studying it; and it is one of the advantages that any woman going into this business has, as it is done at home, and she can interest her own family in it; it is not like going out to work. But if a woman went into it by herself with the idea of making a living by it, I don't know whether I could say she would be able to do so.

Mrs. Glessner—I am such an amateur bee-keeper that I don't believe anybody that keeps bees would want to hear anything I have to say. Let me tell a story. I have only a very small number of colonies, as I have taken entire charge of them myself. One day when I was busy, and very much engaged—I have a little house down in the White Mountains—I saw a little skunk down the path coming towards me. I was so much engaged I simply went right on with my work, and kept an eye on him. After a while he came down another path, and it was so tempting, he was so close to me, that I thought I would see if I couldn't capture him. So I picked up an empty bee-hive without a bottom-board, but with a cover on it, and I walked out very gently and clapped it over the "gentleman," and then piled some stones on top so that he couldn't lift the cover up; then I went away. My son's house is up in the woods a little way, and I went to the telephone and called him up, and said, "I have a little skunk in a bee-hive down at the bee-yard, and I would be very glad if you would come down and help me." There was quite a little pause, and quite a little snicker, and finally he said, "Of course. What shall I bring?" I said, "You might bring some fire arms of some sort." So I armed myself with a bottle of ether and chloroform, and a little, long syringe. We pushed the cover off a little bit and I threw in the ether and chloroform. Then we tied a string a string around the bee-hive and he put me off to one side and said, "Now, when I say 'Pull,' you pull." I pulled, and he fired, and we had one dead skunk, and no odor at all. [Applause.]

Miss Wilson—I don't know that I have anything new to say, except I think it very much depends upon the woman, just the same as it does upon the man. Not all men will make a success of bee-keeping, and not all women. If a woman is intensely interested in bees, and has a good deal of pluck, and

grit, and energy, she will make a success of it. If she is afraid of bees and doesn't care for them, and is not interested in them, I don't know that she would be very apt to make a success of it. As to the profit of bee-keeping, I think there are other profits to be considered than dollars and cents. The health of many women would be improved, and they would enjoy a great deal of profit outside of dollars and cents. As for me, I am very sure that the profit in



MISS EMMA M. WILSON.

regard to my health would have been a sufficient inducement for me to have gone into bee-keeping; and I think many women would find the same thing, besides materially adding to their finances at the same time.

Pres. York—I think Mrs. Stow said something about having a man to help her. What do you say about that, Miss Wilson?

Miss Wilson—I think it would be very advisable—if you can get one. [Laughter.] I think you can get along without them.

Pres. York—Next, I was going to ask Miss Wilson to tell about the man that helps her.

Miss Wilson—If you could all have as good a man to help you as I have to help me, I would advise you all to have a man.

Mr. Wilcox—Can you tell us any reason why a woman producing comb honey cannot make it as profitable as a man can?

Miss Wilson—I don't know of any reason; I say it all depends upon the woman.

Miss Candler—I don't know, only as Miss Wilson says; bee-keeping is very nice, very profitable, and very healthful.

PRESSURE OF THE GERMAN WAX-PRESS.

"Will Mr. Root tell us what is the pressure of the German wax-press?"

Mr. Root—I don't believe that I can answer that in pounds. Miss Wilson said a good deal depends upon the woman in keeping bees. A good lead depends on the wax you are pressing, and a good deal depends on what strength you have. One great trouble is, it is a mistake to suppose that a great deal of pressure is necessary; an intermittent pressure is generally better than to squeeze the combs right down. Suppose you fill your press clean up to the top, and then squeeze it down in a solid mass, and consider you have done the job. That is not the way it should be done. It should be squeezed, and turned over, and turned over, and squeezed, if you want to get it all out. Some experiments are going to show that hot water is a great deal better than steam.

Mr. France—Just one thing there. I believe that some of you get a wrong impression about the wax-press. When Mr. Root said, "You fill that up," he won't recommend that, or I have not found that from my experience. You want to put in but a small quantity of slumgum at a time in order to get the effect of the pressure.

Mr. Wilcox—How thick should the cake be at the bottom of the press when you press it?

Mr. France—I should prefer not to have it over an inch and a half thick.

Mr. Reynolds—Dr. Miller, I believe, asked Mr. Hubert Root last year what the pressure was of that press, and he stated that there was between three and four tons. I claim that there is no such pressure, for the simple reason that the cross-piece of the wax-press will not stand it. The one I use bends, and draws the side in on the basket, and it is a hard matter to get the basket out with the slumgum in.

Dr. Miller—Is the bar of wood or metal?

Mr. Reynolds—It is wood. I think it is not right that that should be sent broadcast through the proceedings of the convention as it was last year.

Mr. Meredith—I believe if you take a 10-pound block, and put it over the screw, turning or pressing the wax, that the pressure at which I have used the press, the slumgum

would easily raise a 10-pound block. I don't think there are many people who recognize the force that is obtained by the screw process. Possibly Mr. Root could give us some idea. You have seen buildings that have been raised with jacks, and the thread on the wax-press is something like that, which would indicate a large amount of pressure.

Mr. Wheeler—I have used one of those presses and I have had to do away with one of those top sticks. As Mr. Reynolds said, it was too light, and kept bending, and bending, until it was a regular rainbow, and finally we had to put in twice as heavy a stick of oak, 3 by 4 inches, and that works tip-top. The hot steam seems to soften the wood.



ERNEST R. ROOT.

The first one gave out entirely. After it got a bent shape I turned it over.

Mr. Root—What Mr. Wheeler says is true. We found that out to our sorrow, and I will say we have replaced those, and any one who has had one that has given them trouble, we desire to give him a new one. We put an iron brace under it, and a piece of sheet-metal to protect the wood. I perhaps ought not to say it, but I will say it, that wax-press is something we sent out and we thought it was perfect. There is a great deal to learn about a wax-press. My brother has been three months working on this wax-press, ten hours a day, doing nothing else, and sometimes clear up into the evening, and we have learned this, that great pressure is not necessary. During the last year we changed

the pitch of the screw so that it would have less than half the power of the first screw sent out, because the difficulty would be, they would put too great pressure on and break it. Mr. France is right when he says a press should not be full, only enough to make a cheese about an inch and a half thick. Then you can get all out but about five percent of the wax. What we are working for now is to get that five percent.

Mr. Dadant—We have had considerable experience in melting beeswax and old combs. We used to melt old combs by breaking them up fine, soaking them in water, and then rendering them. But the great principle is, if you get the combs well broken, those combs that contain cocoons or the skins of the larva lodge in the cells, and no matter what amount of pressure they will not come out; that is, they will not allow the wax to come out. If you have everything well broken, and well soaked in water, the beeswax will come out sooner or later.

Dr. Miller—That is very good, I believe, but I failed on that.

Mr. Dadant—I never did much of it myself, but I know we did it.

Dr. Miller—I am merely saying I didn't know enough to do it, and I would like to know how.

Mr. Dadant—If you do it in warm weather it will not do it so well, but in cold weather it will do it better. We have used the German wax-press, and I believe we are one of the few who have not broken the iron casting given in the first place. We had customers who bought those through us and who all complained of breaking them. We took it for granted that it was easily broken, and we must be careful, and I think we got the wax out of the combs about as well as anybody could. We put the wax in and put on the pressure, and keep it on all day long. You will find every few minutes, or half an hour or so, you can make another turn with but a little pressure, and keep on getting your wax away from the center. We have the same thing in pressing grapes. You take a large cheese of grape-pulps and press it in a hurry, and the juice in the center has no time to get out; but give it time to press out, as the pressure goes on it it gives more room; you press it gradually, and therefore you can get better results with less fatigue to the operator.

Dr. Miller—Do I understand that the metal casting had broken?

Mr. Root—The first press we sent out had a cast-iron frame built exactly as they build them in Germany. I supposed if we followed the plan given in Germany we would be perfectly safe. Those who have had experience in making castings will know that sometimes there are flaws in the casting. Mr. Dadant may have had one without any flaws. Those flaws are covered up by galvanizing. We replaced all that we knew about, and sent out the wooden tops. I sent Dr. Miller one. Then we discovered that the combination of metal and wood—wood protected by a piece of

galvanized iron—was better than anything else we could have, and that is what we are now furnishing. It consists of a piece of hard oak, 4 by 3 inches thick; on the inner side of it is a cast-iron brace that is two inches at the widest part, through which the screw passes, and an inch at the farthest point. This brace is made just like ordinary braces—with a rib running through the center to stiffen it. The cast-iron top was a circular piece of cast-iron about three-eighths of an inch thick, with ribs like the spokes of a wheel, the ribs being thicker towards the center.

Mr. Meredith—I would like to say a word, not speaking of pressure as a defect, but from experience possibly in putting on too much power when I have had to let it stand. The bottom or the portion upon which the cage sets being a light piece of metal with rivets around, I have drawn two or three rivets right straight through, and I found that the iron around there has turned something like the fans of a windmill, instead of standing up. I was wondering if that was a common complaint, or just an accident with my machine.

Mr. Root—That is not a common complaint, but in some few instances it has happened. There is one thing about the wax-press I feel chagrined over—that we couldn't build it in the first place so that it would resist these strains. But you can see what the problem was to us, it was making one strain against another, and that strain sufficient to stand all kinds of pressure. When we say the pressure must be right, it may be three or four tons, or four or five tons, they don't quite understand what we mean. In reference to the remark made by Mr. Reynolds, stating that my brother said the pressure would be three or four tons, he probably gave that statement from first experiments then made. At that time we thought great pressure was necessary, but we learned afterwards pressure was not needed, but a light pressure continued, so that the wax could get away.

Mr. Reynolds—Don't you think it should be sent broadcast to the people that that was a mistake?

Mr. Root—This is broadcast here.

Mr. Reynolds—Shouldn't it be put in Gleanings?

Mr. Root—I think I have published it two or three times.

EXHIBITS AND PRIZES AT CONVENTIONS.

Mr. Swift—I don't want to shut off the wax-press discussion, but a matter has occurred to me that is entirely foreign. I have attended, now, I think, three or four of these conventions—I am not sure which—and this is the only convention I have ever attended where there is nothing in evidence of the object of the convention. You take the Fat Stock Show, and when they have their meeting they have their stock to see and judge; you take the meeting of the Horticultural Society, and the different associations throughout the United States and elsewhere, and they all have exhibitions of their products—something to judge by. The Chicago-Northwestern Bee-Keepers' Association have

nothing but a bare room, and these charming (!) pictures to gaze upon, while you are listening to the words of knowledge that come. I think it would be a good idea to have something on the line of our work on exhibition here at the convention. Our Secretary-Treasurer has notified us we are woefully weak in the form of finances. If we join any more associations we probably won't have anything left. If it meets with the approval of the Executive Committee, I would like to make an offer of \$10 to the Association for three prizes for the exhibition of honey at our next convention; \$5 for the first, \$3 for the second, and \$2 for the third—say a dozen sections of comb honey, the quality and character considered, and I will myself be responsible for the premium, if that meets with the approval of the Association.

Pres. York—I think that is a very good idea, and if you wish to put it that way I think the Executive Committee will arrange for an exhibition next year; and if anybody else wishes to say they will give something, or give a premium for something else, we can have that.

Dr. Miller—I will take it out of the hands of the Executive Committee, and move that the offer be accepted with thanks.

Mr. Reynolds—I second that.

Pres. York put the motion, which was carried with applause.

Dr. Miller—I want to suggest one caution. I have been at conventions where we have had a great many things on exhibition, and Mr. Swift doesn't know the danger-point that lies in connection with that. One of the troubles about it was that in an adjoining room, or sometimes in the same room where these articles were on exhibition, the invariable result would be that there would be two or three, or half a dozen, people around those things looking at them and talking about them while the meeting was going on, and unless some steps are taken to prevent that, you are going to do more harm than good.

Mr. Swift—That is the reason I left it to the Executive Committee.

Pres. York—If we meet here next year we can have it *in front* of the convention.

Mr. Moore moved, seconded by Dr. Miller, that at 4 o'clock p. m. this convention adjourn to meet again next year. Carried.

SECOND DAY—AFTERNOON SESSION.

At 1:30 the convention was called to order, with Pres. York in the chair.

PROTECTING HIVES FROM SUN HEAT.

“Should hives be protected from the heat of the sun? If so, what is the best method?”

Mr. Hutchinson—I think where you are producing comb

honey, and the heat drives the bees out of the supers, it is an advantage to have the hives shaded. I don't know of anything better than a moveable board. You can make a very cheap "board" out of shingles by having a piece across the center of each, and you may nail the butts of the shingles together and make a shade-board 2 by 3 feet. Have the hive face either east or west, and lay that board on top of the hive.

Mr. Kimmey—When it gets hot enough to drive the bees out of the super, you say. Do you know that it ever does.

Mr. Hutchinson—Yes.



W. Z. HUTCHINSON.

Mr. Kimmey—Some one has told us if the hives are open; Mr. Doolittle has said there was no need of opening them at all.

Mr. Hutchinson—It depends upon the location. If the hives are standing in a close place, where the sun could beat down and no breeze pass over, that would make a great difference. If they stood out on a hill where the breeze could blow over, that would make a great difference.

Mr. Meredith—A gentleman I have some dealing with in the bee-business recommended planting grape-vines; that lets the heat of the sun directly on the hives before the leaves come out, and after the leaves have fallen in the

fall, and it gave them shade protection in the summer, using the Clinton grape more on account of its prolificness.

Mr. Snell—I think the matter of shade depends largely upon location, as Mr. Hutchinson said; where the apiary is surrounded by a good deal of wind-break the air is more suffocating, and the hives in that case will need shading; where, if they stood out in more of an open place, where there is more circulation of air, they would not become heated up enough so that the bees would cluster out very much and desert the supers.

WIRING BROOD-FRAMES WITH STARTERS.

“Should brood-frames with starters be wired to prevent breaking out of the comb?”

Mr. Hutchinson—Unless the hives are to be moved or shipped by express I don't think there is any necessity for it, simply for use in your own apiary. If they are to be shipped they need wiring. Possibly if you are going to produce extracted honey those wires would be of advantage, especially when the combs are new. After they are old they are not.

Pres. York—Would the bees be apt to build the combs properly over the wires when using only starters?

Mr. Hutchinson—Yes, they will.

Mr. Kimmey—My experience with bees has been limited to the first swarm I had issue. I hived upon simple frames with starters, and I never expressed nor move them anywhere except to carry them in the cellar, and three of those frames broke down; I don't know whether it was from my awkwardness, or weak combs, or what it was. It seems to me that after that experience I would always wire the frames.

Mr. Meredith—In wiring frames of foundation I have experienced the trouble of the bees gnawing in or around the wire, and to do away with this trouble I use the brush and slightly cover the wires with a little heated wax.

Mr. Becker—In my experience I have never used any wire. I always use half sheets of foundation for every brood-frame, and I have never had any trouble with frames breaking down.

Mr. Hoffman—I won't agree. If they do as I do they will have no trouble. Hive on full sheets of foundation, and put it in the hive, and then you want to wire. But I try, as a rule, to get all the combs drawn before that time. I put them in the top hives and have the bees draw them out, and then I can put them anywhere and they are all right. This wiring is a tedious undertaking for me.

Mr. Horstmann—The comb will not break if properly handled, so there will be no necessity for wiring for the purpose of holding the combs. Take a frame and turn it over, and they are going to work up into it, right up and down; they will never break.

Mr. Colburn—I think it depends upon whether the combs are fastened to all sides of the frames. I have had

quite a number of combs where the frames were fastened securely, and I have done almost anything I wanted with them, and yet they never fell out; and then I have had a



White Sweet Clover.

comb that was not fastened, and it simply tipped out by raising the frame horizontally.

Mr. Hoffman—Wiring foundation gives one so much more work, and that is why I am not so much in favor of

it; by wiring you will get a straight comb, and true, and it will not sag, either.

Mr. Horstmann—The question asked is, Is it necessary to wire frames with starters? I say it is not necessary, but if you want to take the frames out of the brood-chamber to extract the honey it will be necessary to have it wired. But answering the question as it is, I consider it is not necessary, because I have handled the frames a great deal and I have never had one break yet, not even bend.

Mr. Hoffman—I don't understand by the question that it means starters. I wouldn't wire them at all.

SWEET CLOVER HONEY.

"What are the objections, if any, to honey produced from sweet clover?"

Mr. Horstmann—There is no objection. That is the best honey produced.

Pres. York—The only objection then, is, that we don't get enough of it!

Mr. Colburn—I have heard the suggestion that it was not as good as white clover honey. I have been in localities where I got both, and I confess I like the white best. The sweet clover is very fine—it is very far ahead of anything else in looks, but I don't think the quality is as good as the white clover. If you can get it mixed it is good.

Mr. Becker—I think sweet clover is all right, providing there is no other honey with it. I have had experience with sweet clover. We don't get it pure in our neighborhood. Whenever we take it to Springfield we have to have our sales made before we get there to get rid of it. They don't like it in that locality. I bought some from New York, four or five years ago, when there was no honey at all in our part of the country, not even an ounce, and I took it down to the State fair to make my exhibit, and then sold it out; and the store keepers who sold the honey use to tell me, "Becker, you have ruined by honey-trade." They said, "That isn't honey."

Pres. York—Didn't you get a premium on that honey?

Mr. Becker—Yes. [Laughter.]

Mr. Kannenberg—I think it depends a good deal on the man that sells the honey, and how to educate the people to taste the honey. I think if Mr. Becker educated his people to get the honey they liked they would eat it just the same.

Pres. York—Probably there is not enough of it produced.

Mr. Colburn—I have in my place three different kinds of honey. There is another kind of honey I have had put into sections and supers; I don't know what source it comes from. It is white, though not snow-white like sweet clover; it has a slightly muddy tint. That honey has no more flavor to it than so much sugar syrup. As soon as I discovered it I stopped selling it, because I said everybody that tastes that will swear it is sugar syrup and nothing else. I would like to know if anybody else has had any experience with it.

I think it comes about between white clover and spring clover.

Mr. Meredith—Is it honey-dew?

Mr. Opfer—Here is a bottle of sweet clover honey, and I would like anybody in the audience to show better honey than this. It depends a good deal on the man that produces the sweet clover honey in my opinion.

Pres. York—I am satisfied that Mr. Opfer's sample is pure sweet clover honey. I have had lots of it.



Yellow Sweet Clover.

Mr. Moore—I would like to say a word on this honey question. I sold to my customers some sweet clover honey in Chicago, seven or eight years ago, and it is only recently I have gotten away from the effects of it. Any one who asks which is best, I say, "There is no best; it is simply a question of what you are used to." This market is used to clover and basswood flavors. They get their honey from

Illinois, Iowa, Wisconsin and Michigan, where the preponderance is white clover and basswood. I know a majority will have sweet clover honey. Where they get to like it, it is liked as well as anything else. But this honey question is purely a matter of taste. They want what they have all their lives been used to, and they will absolutely condemn and call impure anything else.

Mr. Becker—As far as sweet clover honey is concerned, I have no objection whatever; it is a very fine honey. But when you take out a section of sweet clover honey there is the peculiar smell to it that is not in any other honey, and I think that is the part that people do not like. When you taste the honey it is as fine tasting as any honey, but it has that peculiar smell that you can smell in the growing sweet clover a hundred yards off before you reach it.

LABELING SECTION HONEY.

"What might be the disadvantage of a label covering all four sides of a section, printed matter being on all four sides?"

Mr. Fluegge—I should think it would be daubed up with honey and get soiled.

Mr. Wilcox—Retail dealers might not like it, and that is a serious objection. They won't want to advertise your honey for you, by distributing it among their customers; they would sooner order direct from the producer.

Pres. York—I take it that the questioner means printed matter concerning the production of honey, or proof of the purity, and not as an advertising card.

Mr. Wilcox—I see no necessity for any printed matter on comb honey unless your name is on it as a guaranty of purity.

Pres. York—At the St. Louis convention the question was asked whether it might be well to print something right on the wood of the sections by the manufacturers, calling attention to the fact that there is no such thing as manufactured comb honey, or something of that kind. But I doubt if people would stop to read it, anyway. Take the cities where most of the comb honey is sold, the servant girls get it, and I don't think they would stop to read anything printed on the sections. Still, they might.

Mr. Moore—It seems to me if any one wants to put printed matter on it, the carton is the very best method, and you can print them all over, and as much of it will be read as any other printed matter we send out.

THANKS TO MR. ROOT.

Mr. Moore—I move that we present to Mr. E. R. Root, towards his expenses, the sum of \$5. Now, inasmuch as he has absolutely refused to accept anything, and says he will donate this sum to our foul brood fund; and inasmuch as our whole assembly was greatly entertained and interested by his exhibition of last night, I move you a vote of thanks

be given to Mr. Root for his very fine exhibition of last evening.

Mr. Kannenburg—I second that motion.

The President put the motion, which was carried unanimously.

EXPERIENCE WITH ALFALFA HONEY.

“Has any one had any experience with alfalfa honey, and with what success?”

Pres. York—I don’t know whether it means producing alfalfa honey, or handling it, or eating it, or what. I would say it is very good to eat.

Mr. Becker—I want to say I don’t know anything about its production. I know that alfalfa won’t produce honey in our locality. But alfalfa honey as a honey I have sold on the market, and I think it is equal to white clover, or next to it, none excepted. It sells readily; everybody likes it. And there is another thing about it, there are a great many persons that cannot eat honey, but alfalfa they can eat in great quantities. I would advise those that handle alfalfa honey, or sweet clover honey, if the store-keepers will not sell it, to mix it with some darker honey, for instance with heartsease or even buckwheat. Buckwheat I have not had for a good many years, but I use heartsease and Spanish-needle. Invariably in my locality they say this alfalfa honey looks too much like sugar; it hasn’t the color of honey. I sell a great deal of it every winter. When I get this honey at this time, and I am out of other honey, I go around and get some Spanish-needle and heartsease honey, and heat it all and melt it in order to produce a different color of honey. Alfalfa is too light a color to sell in the stores. But as to alfalfa, it outsells almost any other kind of honey.

The regular stenographer, Mr. Angus, having to leave for his train at this time, Mr. Hutchinsin kindly reported the balance of the session as follows:

PAPER PAILS AS RETAIL PACKAGES FOR HONEY.

Mr. Abbott—A man in Colorado expressed to me a paper pail full of alfalfa honey. It reached me in good condition, and was of fine quality. It stood around in the office two days, when, by that time, it had all been eaten. If we could get hold of something like this to put up honey in for retail, it would be a fine thing.

ALFALFA HONEY CANDIES READILY.

Mr. Wheeler—When we mention alfalfa honey we are advertising a Colorado product; we ought to advertise our own honey. I have found that alfalfa honey candies very readily.

Pres. York—I have found that alfalfa candies very readily, and comb honey of this variety ought to be sold before cold weather comes on.

IS PURE ALFALFA HONEY HARD TO GET?

Some members expressed their doubts of the possibility of getting pure alfalfa honey. They thought it was largely mixed with sweet clover.

Mr. Abbott—I have been eating sweet clover honey for 20 years, and I don't think you can fool me with it. We get some honey from the West that is not all alfalfa, but I have no trouble in getting water-white alfalfa honey.

A bottle of honey, supposed to be sweet clover, was then passed around.

Pres. York—I have handled tons of sweet clover honey, and I should say that this is a sample of pure, sweet clover honey.

Mr. Snell—I get no surplus from alfalfa, but we have sent for some of the bacteria with which to inoculate the soil, and are hopeful of better results.

WHAT IS AN UP-TO-DATE APIARY?

Mr. Horstmann—Where all of the hives are of approved pattern, the weeds and grass kept mowed, where there is an extractor used, and everything kept neat and clean.

Mr. Wilcox—I suppose that no old straw hives are used, and everything is kept neat.

HAS ALFALFA HONEY SPECIAL MEDICINAL QUALITIES?

Pres. York—I have never heard that alfalfa honey possessed any special medicinal properties. I believe that basswood has been given that distinction.

Mr. France—I have sold my dandelion honey at an advanced price because of its supposed medicinal qualities.

Mr. Abbott—I suppose that all honey has medicinal qualities if it is used rightly. It is peculiarly effective in bronchial diseases.

SHEEP FOR KEEPING DOWN GRASS IN THE APIARY.

Mr. Reynolds—Sheep sometimes knock over the hives.

Mr. Wilcox—I don't know as I would at all times turn in the sheep, but, in the honey season, it seems to me it would be all right.

Mr. France—In procuring a site for an out-apiary, I select a pasture. The stock soon learns to work in the apiary at night. If hogs have to the yard, I want the hogs to have rings in their noses.

CAN HONEY-VINEGAR BE MADE AT A PROFIT?

Mr. Meredith—Waste honey can be used profitably for that purpose.

Mr. France—We can get a good price for honey-vinegar in our home market where we and the vinegar are known. I would advise the use of waste honey from washing capings, the washing of dishes that have contained honey, etc.

Mr. Wilcox—If we have honey that will sell at 4 or 5 cents per pound, can it be made into vinegar with profit?

Mr. France—I think not.

Mr. Hoffman—Give the process for manufacturing vinegar.

Mr. France—Make a solution of honey and water that will float an egg, then let it stand until it has turned to vinegar. That is all there is to it. There are quicker processes than this—those that expose it to the air more thoroughly than this—but it will not pay the ordinary bee-keeper to bother with them.

SAMPLES OF HONEY.

As a drawing card for the National convention that was held at St. Louis, Mr. France collected pound-samples of different varieties of honey from different States. After securing them it was impossible to display them, as outsiders kept slipping in and carrying them off. It was quite interesting to see how the same variety of honey differed in different parts of the country. Mr. France had with him, and placed upon exhibition, small samples of the varieties of honey that he had gathered.

"BRICK HONEY."

Mr. Root exhibited a sample of candied cut up as they cut it up into "bricks," and surround the packages with paraffined paper, with parchment paper over that. It can be sold only in a local market, as the public in general does not understand about the candying of honey, and, if kept over until warm weather, it will become too soft; in fact, only such honey as candies hard can be used.

Mr. France—Have you tried Southern honey?

Mr. Root—No, we have not.

Mr. Kimmey—How will it be next summer?

Mr. Root—It will be soft. As I have said, it must be sold while the weather is still cold. I would not advocate it for use away from home.

Mr. Duby—I have calls for candied honey here in Chicago.

Mr. Moore—There is no trade in candied honey here in Chicago, unless it has been worked up.

HOW SHALL WE BEST MARKET COMB HONEY?

Mr. Abbott—It depends upon the locality.

Mr. Becker—My plan is to put the honey up in an attractive package. I make three grades. There is a first and a second grade, and then the culls. Sell in the home market if possible. A home market is lasting, once it is established. Shipping honey without loss from breakage is an art. I have bought lots of honey from Mr. York, and never yet had a particle of loss from leakage in shipping.

Mr. Reynolds—An agent, or seller of honey, sometimes makes sales, and gets the start of some other seller, by show-

ing that his honey is of light-weight—that is, the sections do not quite weigh a pound each, and there is more profit in their sale.

Mr. Becker—I have seen that done, but I always sell by weight.

Mr. Moore—I found, in Indiana, merchants who were selling 2,000 or 3,000 pounds of honey each year. I found that they did it by keeping it in sight—put up in nice show-cases. Sell honey close at home, then it will not be smashed.

Mr. Duby—I have sold as much as 1,000 pounds of honey at a fair, and I find it an excellent place to advertise.

Mr. Meredith—At Mill Park, where there were excursions from schools, I have sold as much as 400 pounds of honey in one day.

Mr. Wilcox—First decide at what price honey will sell. Put it up in the best style. Sell it near home. If not possible, then put it in the hands of commission men.

Next came an address by Prof. E. N. Eaton, State Analyst of the Illinois Food Commission, on

FOOD FRAUDS AND FOOD OFFICIALS.

Again I have the privilege and the honor—and I assure you it is a privilege and an honor—of appearing before the Chicago-Northwestern Bee-Keepers' Association. I believe I feel as much interest in your Association, its members and its meetings, as I would had I as large an apiary as Mrs. Stow, or as much knowledge of the bee as Dr. Miller, instead of no knowledge of the ways of the bee except as a warrior, and no earthly possessions in that line—not even a bee in my bonnet. Last October I read before the National Association a paper on "Food Frauds," laying special stress on the misrepresentation of comb honey, and the damage such misrepresentation has done to the sale of that commodity.

Mr. York has suggested that I bring the same subject before this Association, inasmuch as there are many in attendance at this convention who were unable to get to the National, and the records of that convention will not be available for some time.

Many years ago Dr. Wiley, now chief chemist of the United States Department of Agriculture, stated that comb honey was being made artificially, comb and all. That story went the rounds of the press, and, despite frequent denials, appears in papers to this day, even in such reliable publications as the Ladies' Home Journal, the Chicago Tribune, and the Philadelphia Press. When cornered Dr. Wiley claimed that the statement was "a scientific pleasantry," and that the bee-keepers—simple children of Nature—were too obtuse to see the joke. The public and the public press, however, took it as seriously as did the bee-keepers, and consequently Dr. Wiley's reputation as a joker suffered a serious relapse.

There have been many variations of "the Wiley lie," as the statement has been referred to by bee-keepers. State Food Commissions have said that bees entered the conspiracy, and were fed glucose to produce honey. Other Food Com-

missions contented themselves with repeating the original lie without variation. But all had the same effect—to prejudice the public against the purchase of pure comb honey, and, to a certain extent, of honey of all kinds. I need not tell an association of bee-keepers that such stories are made out of whole cloth. They are in fact lies—however, not malicious lies, as I doubt not they largely come through ignorance. As to the remedy I would infringe on the copyright of President Roosevelt, and suggest *publicity*. Every food commissioner and chemist should do his part to correct the false impression which has been made, and I assure you in behalf



State Analyst E. N. EATON.

of Commissioner Jones and myself, that we will do our part.

Another matter in which the bee-keepers have of late evinced much interest, is the chemical composition of honey. Owing to the fact that the word "glucose" has two or three meanings chemically, and an entirely different meaning commercially, there has been much confusion among bee-keepers, as to whether or not glucose is a normal constituent of honey.

In taking up this matter I wish to call your attention to a pamphlet just received, defining honey and setting standards for the same. The pamphlet is a part of a report from a

committee of standards of the Association of Official Agricultural Chemists, and as their standards have been recognized by the United States Secretary of Agriculture, they become important and authoritative. The standard and definition of honey are as follows:

"1. *Honey* is the nectar and saccharine exudations of plants gathered, modified, and stored in the comb by honey-bees (*Apis mellifica*). It is levo-rotatory, contains not more than twenty-five (25) percent of water, not more than twenty-five hundredths (0.25) percent of ash, and not more than eight (8) percent of sucrose.

"2. *Comb honey* is honey contained in the cells of comb.

"3. *Extracted honey* is honey which has been separated from the uncrushed comb by centrifugal force or gravity.

"4. *Strained honey* is honey removed from the crushed comb by straining or other means."

My quarrel with these standards is in the definition for honey, which I maintain is too sweeping, and incorrect.

Strictly speaking, honey—commercial honey—should be limited to the nectar of flowers. Louse honey, or honey-dew honey, or pine-tree honey, are not, and should not be, sold to consumers for honey. Again, honey is not nectar nor saccharine, but a manufactured product, made by the bees, changed from its original condition.

There is, of course, such a thing as honey from bumble-bees and no doubt other bees, but the only honey of commerce is produced by the honey-bee, and to this bee the definition properly should be restricted. I would therefore suggest that the definition for honey be that suggested by me to the National Association of State Food Commissions, which is this:

Commercial honey is the nectar of flowers, transformed, and stored in a comb by the honey-bee.

As these schedules are subject to revision, it might be wise, if the Association looks at this matter in the light that I do, to take some action, preferably by resolution.

A word as to the condition of the Illinois honey markets in regard to purity, and I am done: Before the Illinois Food law became operative fully 33 1-3 percent of the extracted honey on the market was adulterated. Since then the adulteration has grown less, until last year, when we found seven samples of adulterated extracted honey out of 28 samples analyzed. However, in all but one case, the adulterant was cane-sugar, and in several cases it was impossible to tell whether it had been intentionally added or fed to bees. This year, while only a few samples were analyzed, none have been found adulterated. It seems that adulteration of honey with glucose is almost a thing of the past.

E. N. EATON.

Mr. Moore—Isn't the change of cane-sugar to grape-sugar the same as that made by the bees?

Prof. Eaton—I think not.

Mr. Kimmey—Can chemical science make honey?

Prof. Eaton—No.

Mr. McCain—I supposed that the nectar was changed to honey while in the sac of the bee. Isn't that true?

Prof. Eaton—I am inclined to think that the change is begun in the sac.

Mr. Abbott—This question of nectar and honey has been threshed over again and again. When the nectar is put into a cell I think it is still nectar. I don't agree with Prof. Cook, that honey is partly-digested nectar. Cane-sugar stored in the combs is still cane-sugar, and will remain such, Prof. Cook to the contrary notwithstanding, and



EMERSON T. ABBOTT.

I want Prof. Cook to know that I say this. I would like to know if Prof. Eaton agrees with Prof. Cook.

Prof. Eaton—I must admit that I got most of my information on this subject from Prof. Cook, and I am inclined to agree with him.

Mr. Kimmey—If I feed the bees 20 pounds of honey or sugar, and then find only 14 pounds in the combs, let me ask where the difference has gone to?

Mr. Moore—It has been used up in household economy. Prof. Cook has said that if we feed sugar to the bees, honey will be the result. If this is true, then what kind of honey is it?

Mr. Wheeler—The matter of honey-dew is important. If there was any honey-dew in our honey we might be accused of adulterating our honey.

Mr. Root—Mr. Selser and Prof. Eaton agree exactly as to the proper definition for honey, but this point raised by Mr. Wheeler is really most important. Suppose I am a beginner, and I unknowingly put honey-dew upon the market, there is danger of prosecution, in which injustice will be done.

Prof. Eaton—I might say that I do not agree with Prof. Cook in every point. One point is that I do not believe that when bees are fed cane-sugar the result is true honey. It would be lacking in the natural flavor of true honey. In regard to the best definition for honey I think that practical bee-keepers are the best judges as to what this definition should be. The matter is really important, however, as decisions in important suits may turn upon the definition that the courts are guided by.

It was moved by Mr. Moore that the chair appoint a committee of three to look after this matter of securing a proper definition for honey. Dr. Miller, C. P. Dadant and E. T. Abbott were appointed.

Upon motion of Mr. Horstmann it was voted the Association pay the Secretary \$20 for his services.

DEFINITION AND STANDARD FOR HONEY.

In reply to a question, Prof. Eaton said that he considered 25 percent of water in honey was a high percentage for a standard. About 22 percent is as much water as was ever found, but he thought it better to be safe, and put it at 25 percent. Eight percent sucrose is also a high percentage. He had no objections to offer to the standard as proposed for honey.

Mr. France—I suppose that these standards will become authority. If they do, and the proposed definition is also made authentic, then I am ready to quit bee-keeping. My honey this year would be pronounced adulterated if judged by the proposed definition.

Upon motion of Mr. Moore, a vote of thanks was given Prof. Eaton for his paper. Thanks were also tendered the proprietor of the Revere house for his courtesy and kindness in furnishing a room for the meeting. Mr. Root was also remembered with a vote of thanks for his entertainment with the stereopticon.

The convention then adjourned to meet at the call of the Executive Committee.

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